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*March 2009*

# **US Baseline Briefing Book**

**Projections for agricultural and biofuel markets**

FAPRI-MU Report #01-09

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# Foreword

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The Food and Agricultural Policy Research Institute (FAPRI) provides analysis of agricultural and biofuel markets and policies for Congress and other decision makers. This report presents a summary of ten-year baseline projections for US agricultural and biofuel markets.

## Process and assumptions

In November 2008, FAPRI analysts prepared a preliminary set of projections that were reviewed at a workshop in Washington, DC in December 2008. Reviewer comments and other new information were incorporated into this final baseline prepared in January and February 2009.

The baseline is not a forecast of what will happen, but rather a projection of what could happen if current policies remain in place. The analysis incorporates provisions of the Food, Conservation and Energy Act (FCEA, the 2008 farm bill) and the Energy Independence and Security Act (EISA, the 2007 energy bill). We assume that expiring biofuel tax and tariff provisions will be extended.

Assumptions about the wider economy rely primarily on January 2009 forecasts by IHS Global Insight.

## Things to look for this year

After increasing sharply until the middle of 2008, prices for many agricultural commodities have fallen. This report offers some reasons for these price swings and discusses what to expect in the future.

- Rising petroleum prices, strong global economic growth, a weakening dollar and poor weather in several key countries contributed to rising farm commodity prices in 2007 and early 2008.
- Declining petroleum prices, a weakening global economy, a stronger dollar and better weather in key countries contributed to the decline in farm commodity prices in late 2008.
- Projected farm commodity prices generally remain above pre-2007 levels. This result depends on resumed economic growth in 2010 and a wide range of other assumptions.
- Net farm income is likely to fall in 2009, as the projected decline in crop and livestock receipts far outpaces the decline in production expenses.
- The new Average Crop Revenue Election (ACRE) program appears more likely to appeal to corn, soybean and wheat producers than cotton and peanut producers.

The extreme price volatility of the past couple of years may continue, as many of the factors that caused recent price swings remain in flux. FAPRI recognizes this uncertainty and considers 500 alternative outcomes for the future built on different assumptions about the price of petroleum, the weather and other factors that will affect the supply and demand for agricultural commodities. The tables which follow generally report the averages of the 500 alternative outcomes.

## Acknowledgments

The FAPRI US Baseline Briefing Book for 2009 was prepared by the FAPRI unit in the College of Agriculture, Food and Natural Resources (CAFNR) at the University of Missouri–Columbia (MU), with the help of numerous colleagues at other institutions. The FAPRI team at Iowa State University took the lead in developing estimates related to international markets and the crop insurance program. Colleagues at the University of Arkansas took primary responsibility for developing international rice market projections and we worked with colleagues at Texas Tech University in developing cotton market projections. Finally, the team at the Agricultural and Food Policy Center (Texas A&M) translated these national results into estimates of effects for representative farms around the country. We thank all of our colleagues and reviewers for their help in this collaborative project and we take responsibility for any mistakes.

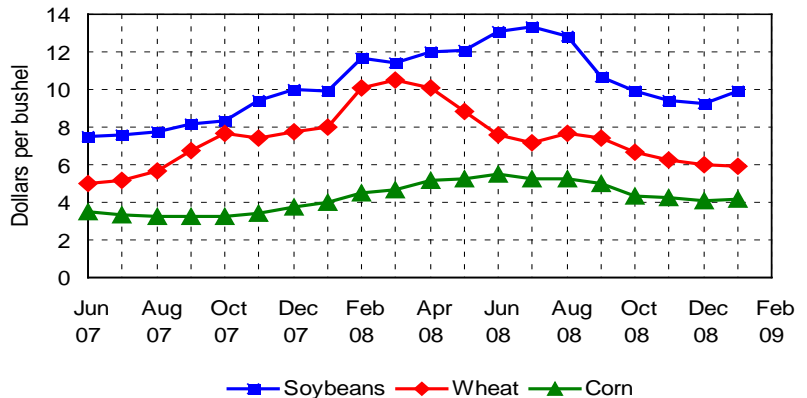
# Summary: Recent swings in prices

- Prices for grains and oilseeds rose sharply in 2007 and early 2008, but have since declined.

- Futures prices have been even more volatile than these monthly-average farm prices, which reflects the smoothing effect of contract sales.

- For example, futures prices for corn peaked at nearly \$8.00 per bushel last summer, but dropped below \$4.00 per bushel by November.

Crop prices rose sharply and then fell

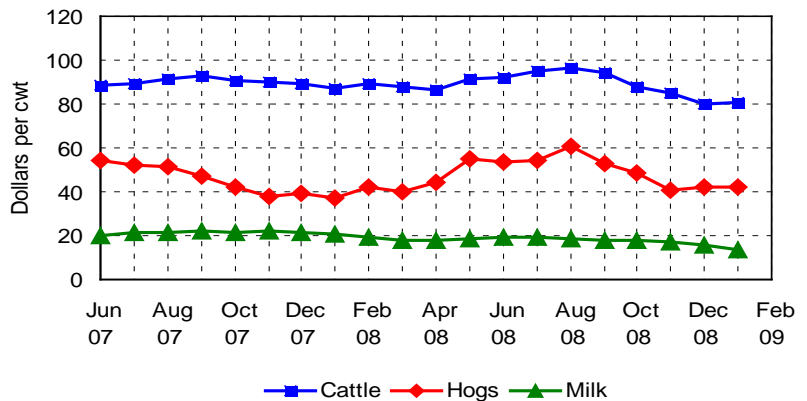


- Cattle and hog prices peaked in August 2008 and then declined.

- Milk prices declined every month from August 2008 until February 2009.

- The declines in crop, livestock, and dairy prices are expected to result in a large decline in farm cash receipts in 2009.

Livestock, dairy prices also fell in late 2008

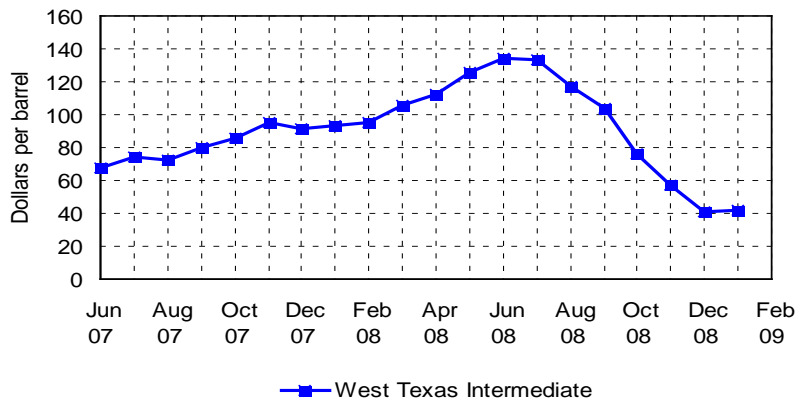


- Rising petroleum prices encouraged rapid expansion of biofuel use and production in 2007 and early 2008.

- Higher oil prices also increased farm production expenses.

- The sharp decline in petroleum prices since July 2008 has contributed to slower biofuel expansion and has reduced farm production costs.

Swings in oil prices were a key factor

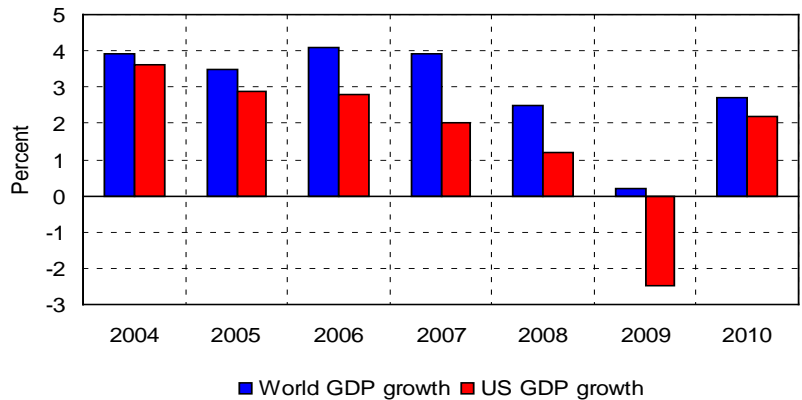




# Summary: Recent swings in prices

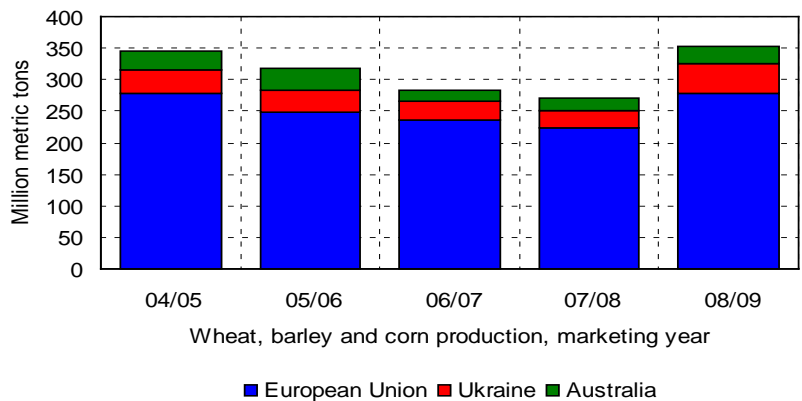
## Weak economy weighs on commodity markets

- Strong economic growth in Asia and elsewhere contributed to strong demand for food and rising commodity prices.
- The current downturn in the US and global economies has resulted in much weaker food demand and lower prices for food and other commodities.
- In IHS Global Insight's January 2009 forecast, a moderate recovery in the US and global economies begins in 2010.



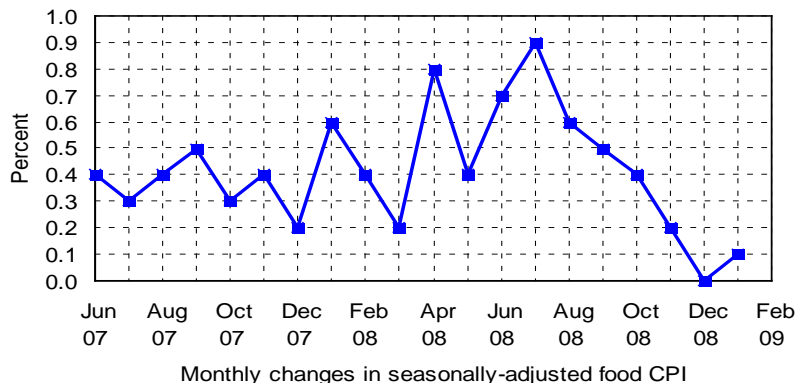
## Swings in foreign crop production affect markets

- Unfavorable weather reduced grain production in major competing exporters during the 2006/07 and 2007/08 marketing years.
- More favorable weather and high commodity prices led to a sharp increase in grain production in those same countries this marketing year.
- These swings in foreign grain production contributed to higher commodity prices in 2007 and early 2008 and lower prices in recent months.



## Food price inflation has slowed

- Consumer food price inflation rose to 5.5 percent in 2008, compared to an overall US inflation rate of 3.8 percent.
- Monthly food price inflation is very volatile, and was generally quite high in the spring and summer of 2008.
- The monthly rate of food price inflation slowed sharply in the last few months of 2008.



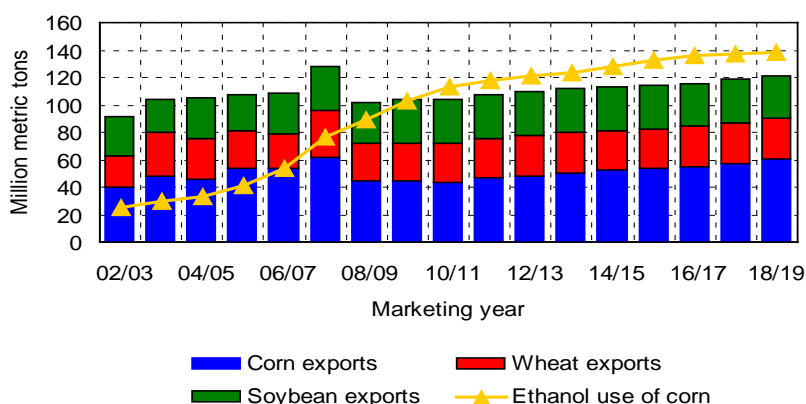
# Summary: The outlook

## Crop exports stagnate, ethanol growth slows

■ US crop exports were exceptionally large in 2007/08, but have declined sharply in 2008/09 due to the weak global economy, the strengthening dollar, and good harvests in other countries.

■ Slow expansion of US grain and oilseed exports is projected, with corn accounting for most of the increase.

■ Although growth in ethanol production has slowed, ethanol use of corn may soon exceed US exports of corn, wheat and soybeans combined.



## Crop prices remain above pre-2007 levels

■ Prices for most major field crops increased sharply in 2007/08.

■ For most crops, projected prices for subsequent years remain well above pre-2007 levels, but below recent peaks.

■ Cotton prices did not increase as much as other crop prices, which is one reason cotton has lost acreage to other crops.

	2004/05- 2006/07 average	2007/08	2008/09	2009/10	2010/11- 2018/19 average
Corn (\$/bu.)	2.37	4.20	3.89	3.74	4.01
Soybeans (\$/bu.)	5.94	10.10	9.37	8.76	9.63
Wheat (\$/bu.)	3.69	6.48	6.72	5.30	5.70
Cotton (cents/lb.)	45.27	59.30	49.13	51.85	58.48
Rice (\$/cwt)	8.31	12.80	16.93	12.87	13.00

## Livestock, dairy prices increase beginning in 2010

■ Margins for most livestock producers were squeezed in 2008 as production costs rose sharply.

■ Weak demand has caused milk prices to collapse and weighs on prices for livestock and poultry in 2009.

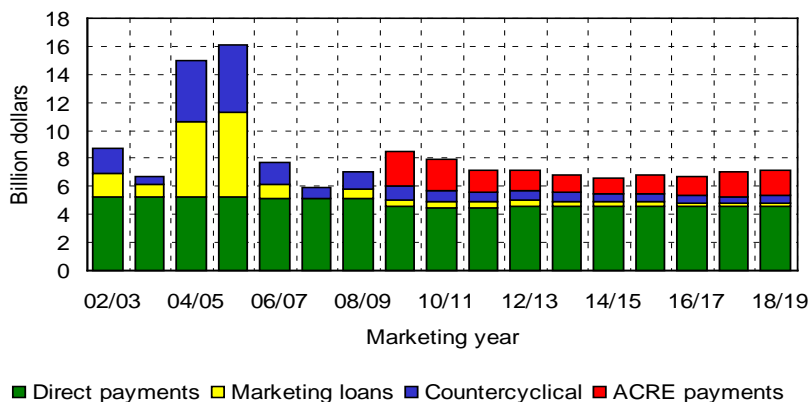
■ Assuming recovery in the US and world economies, livestock and dairy prices increase beginning in 2010.

	2005- 2007 average	2008	2009	2010	2011- 2018 average
Fed cattle (\$/cwt)	88.17	92.27	89.77	94.92	101.60
Feeder cattle (\$/cwt)	117.75	107.56	104.47	113.69	130.34
Hogs (\$/cwt)	48.13	47.84	48.99	52.99	54.70
Chickens (cents/lb.)	70.54	79.67	80.87	81.07	86.18
Milk (\$/cwt)	15.76	18.34	13.08	14.26	17.06

# Summary: The outlook

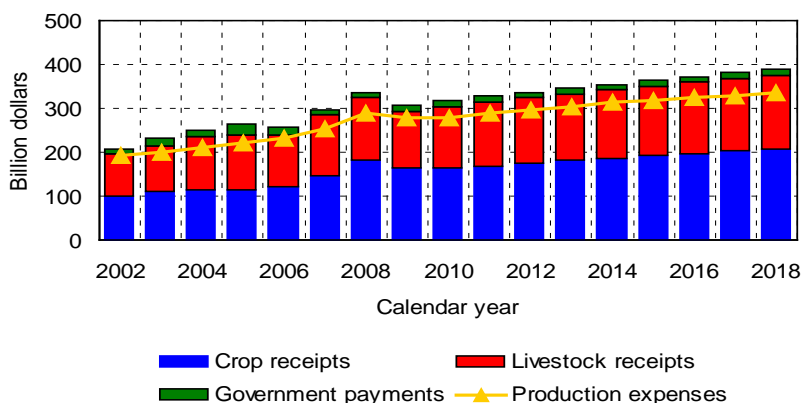
## ACRE could result in higher government payments

- The 2008 farm bill created the Average Crop Revenue Election (ACRE) program.
- The program makes payments when state per-acre revenues for particular crops fall below a trigger.
- The ACRE program is more likely to be attractive to grain and soybean producers than to cotton or peanut producers.
- The impacts of the program are described in greater detail on page 64.



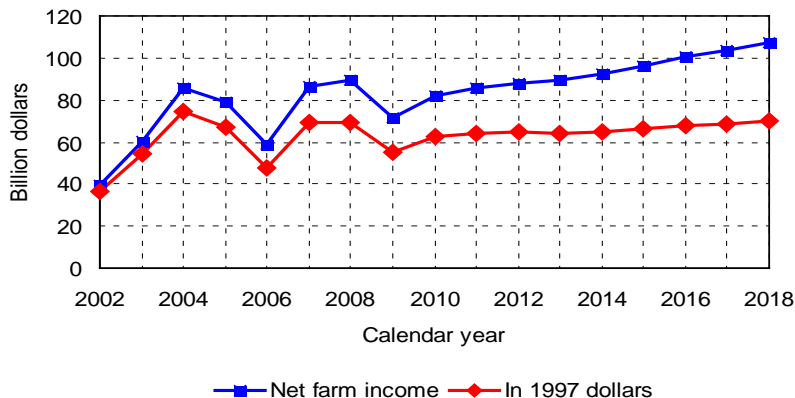
## Farm receipts, costs reflect market volatility

- Cash receipts from farm commodity sales increased sharply in 2007 and 2008, but so did production expenses.
- In 2009, projected crop receipts decline by \$18 billion and livestock receipts fall by \$13 billion, primarily because of lower commodity prices.
- Lower prices for fuel and fertilizer contribute to a modest decline in 2009 farm production expenses.



## Net farm income drops in 2009, then recovers

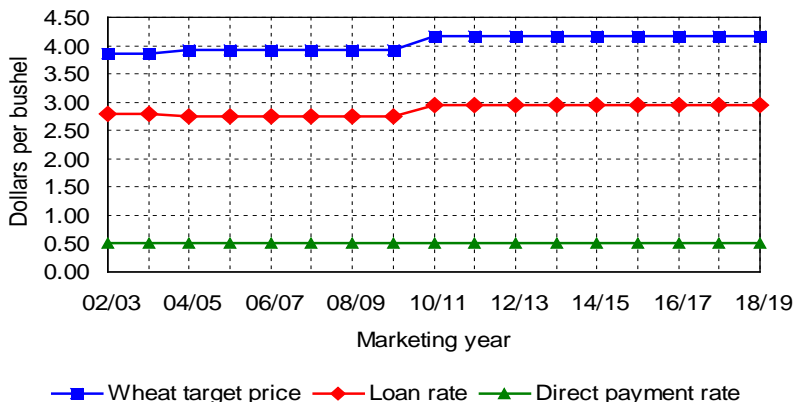
- Net farm income declines by a projected \$18 billion in 2009, as the decline in receipts from farm commodity sales far outweighs the decline in production costs.
- Net farm income recovers in 2010 and increases slowly over time, as the growth in receipts slightly outpaces the growth in production expenses.
- Correcting for inflation, real net farm income only gets back to the 2008 level in 2018.



# Policy assumptions

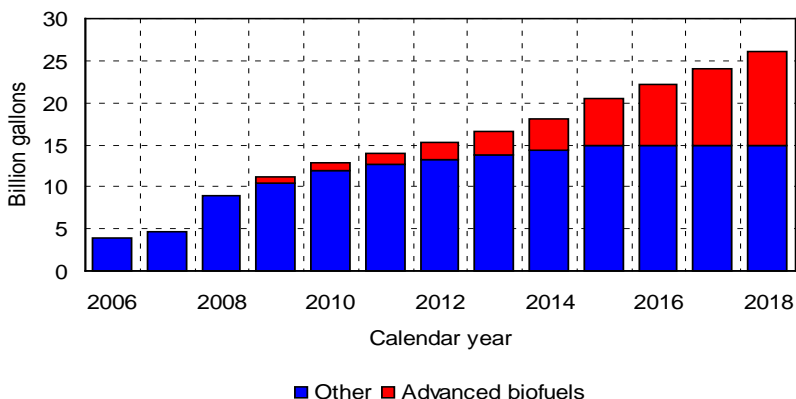
## 2008 farm bill adjusts program provisions

- The baseline assumes provisions of FCEA, the 2008 farm bill.
- Provisions set to expire under current law are assumed to continue throughout the baseline.
- For several commodities, target prices and loan rates adjust in 2010.
- The percentage of base area eligible for direct payments adjusts in 2009 and 2012.



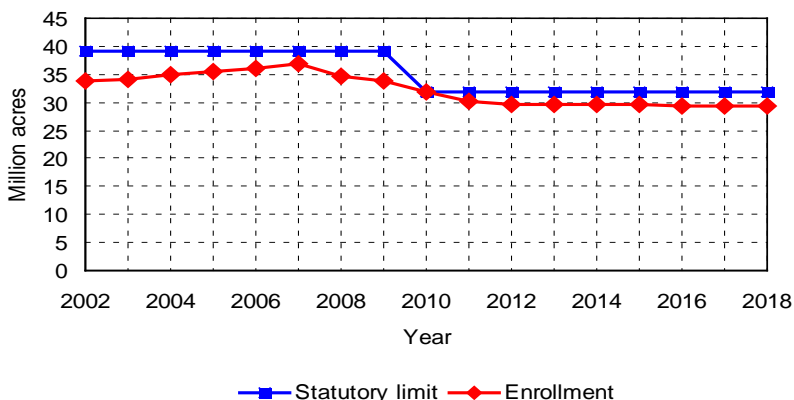
## Energy bill mandates biofuel use

- The baseline incorporates EISA, the 2007 energy bill, which mandates minimum levels of biofuel use.
- We assume that authority to waive the cellulosic ethanol mandate is utilized, but all other mandates are enforced.
- The baseline assumes biofuel tax credits and tariffs are extended when they would otherwise expire.



## CRP area declines below new statutory limit

- Statutory maximum enrollment in the Conservation Reserve Program (CRP) is reduced from 39.2 million acres to 32.0 million acres in 2010.
- Many CRP contracts are set to expire over the next several years.
- The baseline assumes that some of the expiring contracts are not renewed, so total CRP area falls from 34.7 million acres in 2008 to 30.2 million acres in 2011.



## Crop program provisions

	Direct Payment 2008-18	Target Price 2008-09	Target Price 2010-18	Loan Rate 2008-09	Loan Rate 2010-18	Base area eligible for:			Planted eligible for		Base area, 2009
						DPs 2009-11	DPs 2012-18	CCPs 2008-18	ACRE 2009-11	ACRE 2012-18	
	------(Dollars per bushel)-----					------(Percent)-----					(Mil. a.)
Corn	0.28	2.63	2.63	1.95	1.95	83.3	85.0	85.0	83.3	85.0	86.77
Sorghum	0.35	2.57	2.63	1.95	1.95	83.3	85.0	85.0	83.3	85.0	11.82
Barley	0.24	2.24	2.63	1.85	1.95	83.3	85.0	85.0	83.3	85.0	8.59
Oats	0.02	1.44	1.79	1.33	1.39	83.3	85.0	85.0	83.3	85.0	3.05
Wheat	0.52	3.92	4.17	2.75	2.94	83.3	85.0	85.0	83.3	85.0	74.88
Soybeans	0.44	5.80	6.00	5.00	5.00	83.3	85.0	85.0	83.3	85.0	52.06
	------(Dollars per hundredweight)-----										
Rice (all types)	2.35	10.50	10.50	6.50	6.50	83.3	85.0	85.0	83.3	85.0	4.48
	------(Cents per pound)-----										
Sunflower seed	0.80	10.10	12.68	9.30	10.09	83.3	85.0	85.0	83.3	85.0	1.83
Canola	0.80	10.10	12.68	9.30	10.09	83.3	85.0	85.0	83.3	85.0	0.72
Peanuts	1.80	24.75	24.75	17.75	17.75	83.3	85.0	85.0	83.3	85.0	1.51
Upland cotton	6.67	71.25	71.25	52.00	52.00	83.3	85.0	85.0	83.3	85.0	18.40

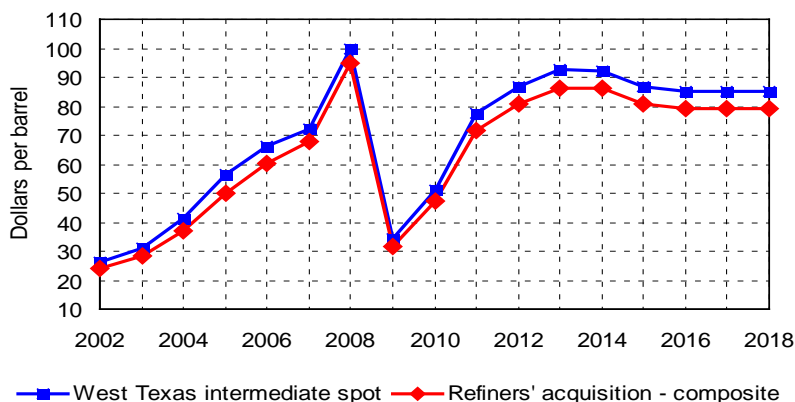
## Other program provisions

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Sugar</b>	(Cents per pound)										
Raw cane sugar loan rate	18.00	18.25	18.50	18.75	18.75	18.75	18.75	18.75	18.75	18.75	18.75
Refined beet sugar loan rate	22.90	23.45	23.77	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09
<b>Dairy</b>	(Dollars per pound)										
Block cheese support price	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13
Butter support price	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Nonfat dry milk support	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
	(Dollars per hundredweight)										
Unadjusted MILC trigger	16.94	16.94	16.94	16.94	16.94	16.94	16.94	16.94	16.94	16.94	16.94
	(Million acres)										
<b>Conservation reserve limit</b>	39.20	39.20	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
	(Million gallons)										
<b>Renewable fuel standard</b>	9,000	11,100	12,950	13,950	15,200	16,550	18,150	20,500	22,250	24,000	26,000
Advanced biofuels	0	600	950	1,350	2,000	2,750	3,750	5,500	7,250	9,000	11,000
Cellulosic ethanol (waived)	0	0	100	250	500	1,000	1,750	3,000	4,250	5,500	7,000
Biodiesel	0	500	650	800	1,000	1,000	1,000	1,000	1,000	1,000	1,000
<b>Biofuel taxes and tariffs</b>	(Dollars per gallon)										
Ethanol tax credit	0.51	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Biodiesel tax credit	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ethanol specific tariff	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
	(Percent)										
Ethanol ad valorem tariff	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

# Macroeconomic assumptions and farm prices paid

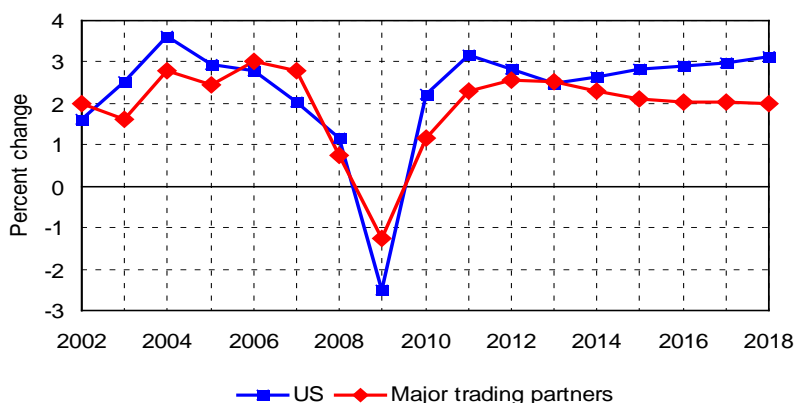
Energy prices decline sharply in 2009

- Oil and other energy prices have dropped sharply.
- Based on IHS Global Insight forecasts, West Texas intermediate petroleum prices average \$34 per barrel in 2009 before recovering to \$54 per barrel in 2010. The average price from 2011-2018 is expected to be \$86 per barrel.
- The stochastic analysis uses a range of petroleum prices centered on these forecasts, as described on page 66.



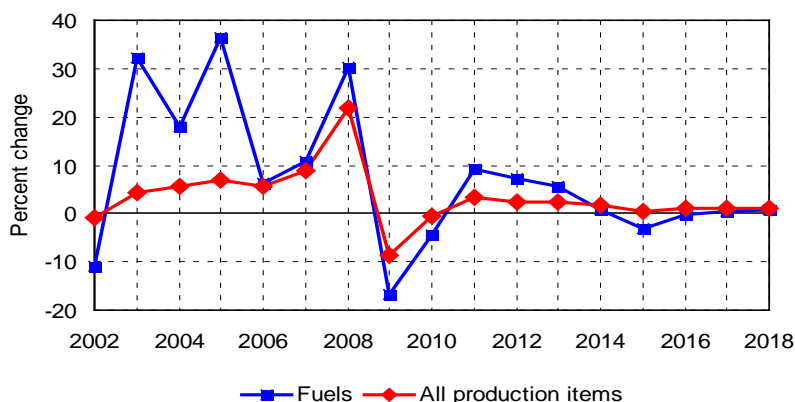
GDP growth tumbles in 2009 but quickly recovers

- The US economy is expected to suffer a sharp contraction in 2009.
- IHS Global Insight projects economic recovery to begin in 2010. If this does not materialize as quickly as expected, most commodity prices would suffer relative to those reported here.
- GDP growth of major US trading partners is also negative in 2009, and does not recover to historical levels until 2011.



Prices paid by farmers fall in 2009 and remain weak

- Prices paid by farmers for all production items retract in 2009 after growing by 22 percent in 2008.
- Fuel prices have been one of the most volatile categories of production expenses.
- Costs of processing, transporting and merchandising food move in a similar fashion.



## Macroeconomic assumptions

Calendar year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
(Percentage change from previous year)											
Real GDP	1.2	-2.5	2.2	3.2	2.8	2.5	2.6	2.8	2.9	3.0	3.1
Population growth	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
CPI, all urban consumers	3.8	-2.2	2.4	3.4	2.5	2.5	2.3	2.0	2.1	2.1	2.1
PPI, all commodities	9.9	-13.9	3.0	5.1	2.8	3.2	2.0	0.4	0.8	0.9	0.9
Wages & salaries	3.0	1.6	1.3	1.7	2.2	2.8	2.8	2.8	2.7	2.7	2.7
(Percent)											
Unemployment rate	5.8	8.5	9.1	8.5	7.9	7.6	7.3	7.0	6.6	6.2	5.8
3-month Treasury bill rate	1.4	0.2	1.5	3.7	4.6	4.6	4.6	4.6	4.6	4.6	4.6
AAA bond rate	5.6	4.8	5.4	6.3	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Petroleum prices	(Dollars per barrel)										
West Texas intermediate	99.59	34.25	51.25	77.38	86.75	92.75	92.25	86.50	85.00	85.00	85.00
Refiners' acquisition cost	94.15	31.46	47.45	71.88	80.77	86.43	86.00	80.65	79.28	79.32	79.34
Inflation-adj. exchange rate	(Index, 2000=100)										
vs. major trading partners	71.2	78.9	76.5	73.0	72.0	71.5	71.8	71.9	71.4	70.3	69.6
vs. other trading partners	74.3	76.8	72.3	69.9	67.5	65.5	64.5	63.7	62.4	61.2	60.2
Foreign real GDP growth	(Percentage change from previous year)										
Major trading partners	0.7	-1.3	1.2	2.3	2.6	2.5	2.3	2.1	2.0	2.0	2.0
Other trading partners	4.0	1.2	2.8	4.6	5.0	4.9	4.7	4.6	4.5	4.4	4.3

Source: IHS Global Insight, Jan. 2009.

## Indices of prices paid by farmers

Calendar year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
(1990-92=100)											
<b>Production items, interest, taxes and wages</b>	185	170	172	178	182	187	190	191	193	195	197
Production items	196	179	178	185	189	194	197	198	200	202	204
Feed	191	179	173	172	177	182	187	190	190	190	188
Livestock & poultry	173	172	182	189	194	195	196	196	197	198	199
Seeds	261	251	253	264	272	282	291	295	300	306	311
Fertilizer	395	349	344	364	376	391	404	402	406	412	412
Mixed fertilizer	408	366	369	393	411	425	435	438	442	446	450
Nitrogen fertilizer	355	298	278	297	306	321	331	329	331	335	335
Potash and phosph.	487	440	442	472	491	507	517	521	526	531	536
Agricultural chemicals	141	133	131	133	134	135	137	137	139	141	144
Fuels	345	287	274	299	321	339	342	331	330	331	333
Supplies & repairs	154	147	148	151	153	156	158	159	160	161	162
Autos & trucks	108	97	101	105	106	107	108	108	108	109	110
Farm machinery	207	190	191	196	198	202	207	211	217	224	231
Building material	166	142	144	150	153	158	161	162	163	165	167
Farm services	153	141	140	141	140	140	140	140	142	145	148
Interest*	164	130	143	167	181	189	194	197	198	200	201
Taxes**	203	175	190	202	207	214	219	221	225	229	235
Wage rates	184	180	183	183	186	190	194	199	204	210	215

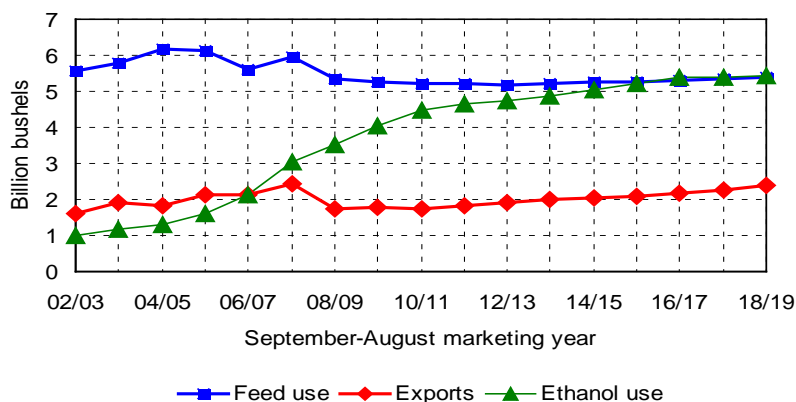
\*Interest per acre on farm real estate debt and interest rate on farm non-real estate debt.

\*\*Farm real estate taxes payable per acre.

# Corn

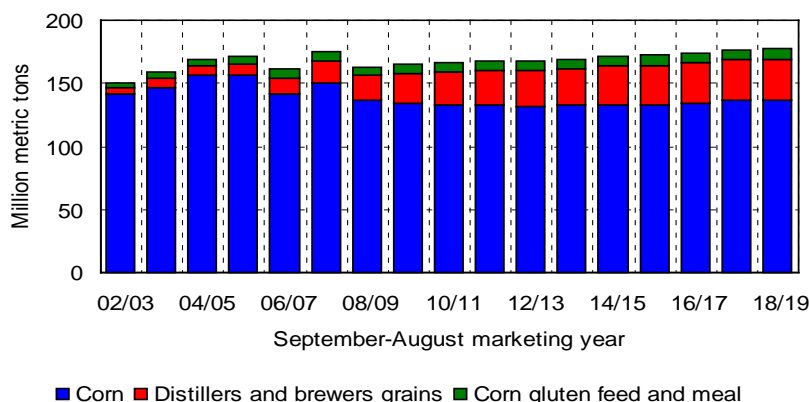
## Ethanol share of corn use rises

- Corn exports and feed use both decline in 2008/09, and the pace of growth in ethanol use of corn has slowed.
- Ethanol use of corn continues to grow in response to EISA biofuel use mandates.
- Starting in 2016/17, more corn is used in ethanol production than is fed directly to livestock.



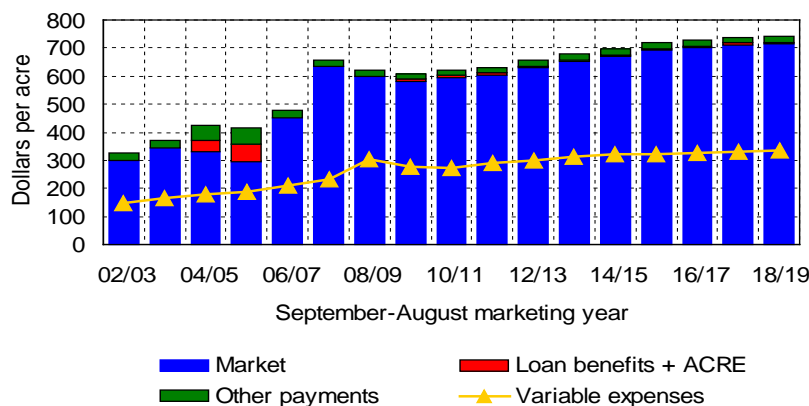
## Use of corn coproducts limits feed use of corn

- Reported feed and residual use of corn declines sharply in 2008/09 due to reduced animal numbers, lower corn production and increased use of corn coproducts in feed rations.
- Stagnant livestock production and competition from corn coproducts limit corn feed use for the next several years.



## Higher prices increase corn returns

- Higher corn prices have resulted in a large increase in producer market receipts since 2005/06.
- Corn production expenses increased sharply in 2008/09, reducing the profitability of corn production. Variable expenses exclude land and other fixed costs.





## Corn supply and use

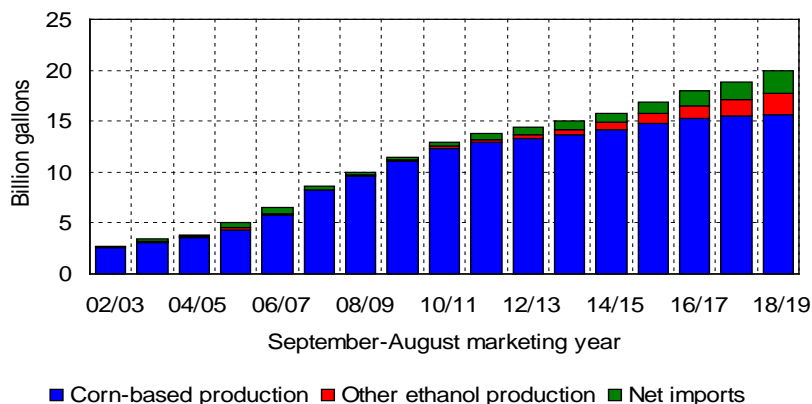
September-August year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>Area</b>	(Million acres)										
Planted area	86.0	86.3	88.0	88.9	88.4	89.0	89.7	90.2	90.7	91.1	91.1
Harvested area	78.6	79.1	80.7	81.5	81.1	81.7	82.4	82.9	83.5	83.8	83.8
<b>Yield</b>	(Bushels per harvested acre)										
	153.9	156.0	158.0	160.3	161.9	164.2	166.0	167.8	170.4	172.5	174.3
<b>Supply</b>	(Million bushels)										
Beginning stocks	13,740	14,132	14,466	14,776	14,860	15,080	15,311	15,524	15,798	16,032	16,215
Production	1,624	1,782	1,700	1,686	1,708	1,649	1,614	1,590	1,552	1,556	1,582
Imports	12,101	12,335	12,751	13,075	13,137	13,417	13,682	13,919	14,231	14,461	14,618
	15	15	15	15	15	15	15	15	15	15	15
<b>Domestic use</b>	10,198	10,664	11,049	11,244	11,310	11,479	11,668	11,872	12,075	12,178	12,254
Feed and residual	5,358	5,281	5,209	5,233	5,186	5,224	5,256	5,247	5,298	5,363	5,401
Fuel alcohol	3,518	4,031	4,473	4,638	4,747	4,872	5,025	5,232	5,375	5,403	5,429
HFCS	476	495	504	505	505	504	504	504	507	510	514
Seed	22	22	23	22	23	23	23	23	23	23	23
Food and other	824	835	840	846	850	855	860	866	872	879	886
<b>Exports</b>	1,761	1,768	1,731	1,825	1,901	1,987	2,053	2,101	2,166	2,272	2,374
<b>Total use</b>	11,959	12,432	12,779	13,069	13,211	13,466	13,721	13,973	14,241	14,450	14,628
<b>Ending stocks</b>	1,782	1,700	1,686	1,708	1,649	1,614	1,590	1,552	1,556	1,582	1,587
CCC inventory	0	0	0	0	0	0	0	0	0	0	0
Under loan	163	206	213	215	198	194	183	180	184	194	196
Other stocks	1,619	1,493	1,473	1,493	1,451	1,421	1,407	1,371	1,372	1,388	1,391
<b>Prices, program provisions</b>	(Dollars per bushel)										
Farm price	3.89	3.74	3.78	3.80	3.91	3.99	4.06	4.15	4.14	4.14	4.11
Loan rate	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95
Target price	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63
Direct payment rate	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
<b>Base area</b>	(Million acres)										
	86.7	86.8	86.8	86.9	86.9	86.9	86.9	86.9	86.9	86.9	86.9
<b>Direct payment yield</b>	(Bushels per acre)										
	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4
<b>CCP yield</b>	(Percent)										
	114.4	114.4	114.4	114.4	114.4	114.4	114.4	114.4	114.4	114.4	114.4
<b>ACRE participation rate</b>	n.a.	60.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
<b>Returns and payments</b>	(Dollars)										
Gross market revenue/a.	598.05	580.04	593.84	605.45	629.57	651.80	671.22	691.44	701.64	710.26	713.15
Variable expenses/a.	303.05	276.74	272.74	288.48	299.30	311.95	320.54	320.54	324.60	329.86	333.59
Market net return/a.	295.00	303.31	321.10	316.97	330.27	339.86	350.67	370.90	377.04	380.40	379.56
Marketing loan benefits/a.*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ACRE payment/a.*	n.a.	8.79	7.41	6.23	5.56	5.42	4.88	5.57	6.18	8.31	8.62
CCP payment/base a.*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Direct payment/base a.*	24.37	21.02	20.30	20.30	20.72	20.72	20.72	20.72	20.72	20.72	20.72

\*Figures reported are averages across ACRE participants and nonparticipants. All table figures are averages across 500 outcomes.

# Ethanol

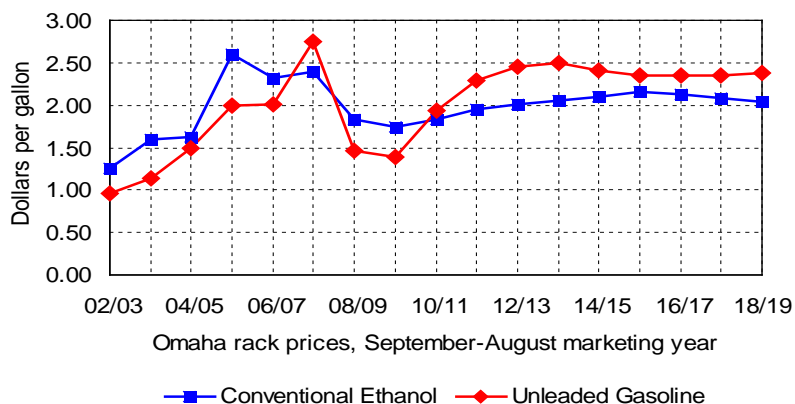
## Ethanol supplies increase

- Projected growth in corn-based ethanol production slows, but still reaches 15 billion gallons in 2016/17.
- Imported sugar-based ethanol is assumed to satisfy most of the renewable fuel standard for advanced biofuels not met by cellulosic ethanol or biodiesel.
- Future cellulosic ethanol production growth is very uncertain. Projected supplies are below the levels envisioned in the EISA.



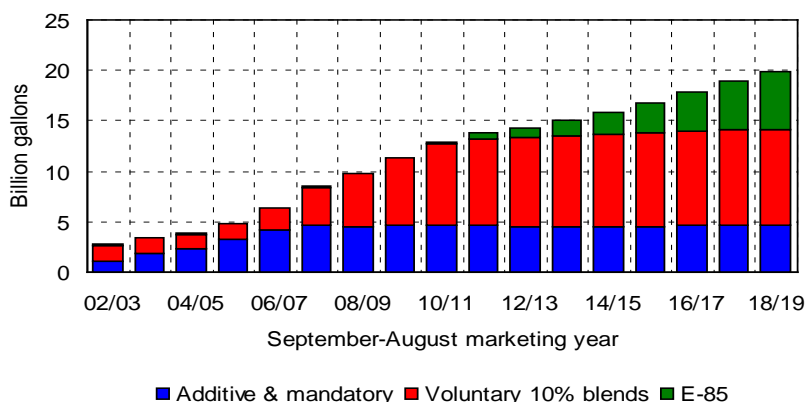
## Relative ethanol and gasoline prices change

- The average rack (wholesale) price of ethanol fell below the average rack price of gasoline for the first time in 2007/08.
- In 2008/09, gasoline prices fall sharply, but biofuel use mandates support ethanol prices.
- When use mandates are binding, renewable identification numbers (RINs) increase in value and allow the producer price of ethanol to increase relative to gasoline.



## Ethanol consumption patterns change

- Additive uses of ethanol increased sharply when methyl tertiary butyl ether (MTBE) was replaced in the nation's fuel supply.
- Voluntary use of 10 percent ethanol blends and E-85 must absorb increasing supplies unless other blends enter the market.
- Ethanol blends must be price-competitive with regular gasoline at retail to encourage the required increase in use.



## Ethanol supply and use

September-August year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>Petroleum fuel prices</b>											
	(Dollars per barrel)										
Petroleum, W. Texas interm.	46.39	45.63	68.71	84.09	90.46	92.29	88.28	85.51	85.18	84.88	85.02
Petroleum, refiners acquis.	43.41	42.16	63.78	78.27	84.25	86.02	82.30	79.75	79.49	79.21	79.36
	(Dollars per gallon)										
Unl. gasoline, FOB Omaha	1.46	1.39	1.93	2.29	2.45	2.49	2.41	2.35	2.35	2.35	2.39
Unleaded gasoline, retail	2.10	2.04	2.56	2.91	3.07	3.13	3.07	3.02	3.03	3.04	3.08
<b>Ethanol supply and use</b>											
	(Million gallons)										
Production	9,741	11,247	12,579	13,177	13,650	14,205	14,884	15,774	16,554	17,077	17,699
From corn	9,607	11,067	12,345	12,865	13,237	13,654	14,155	14,812	15,297	15,452	15,607
From other feedstocks	133	170	211	249	276	298	314	334	356	379	405
Cellulosic	1	11	23	63	137	253	415	627	902	1,246	1,687
Imports (ethyl alcohol)	394	438	571	788	883	977	1,100	1,252	1,588	2,020	2,471
Domestic disappearance	9,820	11,396	12,911	13,785	14,356	14,998	15,790	16,818	17,925	18,872	19,923
Conventional	9,326	10,820	12,158	12,747	13,128	13,545	14,040	14,688	15,169	15,321	15,461
Cellulosic	1	11	23	63	137	253	415	627	902	1,246	1,687
Other advanced ethanol	494	565	729	975	1,091	1,200	1,335	1,503	1,855	2,304	2,774
Exports (ethyl alcohol)	201	207	177	155	155	156	160	164	174	194	211
Ending stocks	739	821	884	908	930	958	992	1,036	1,079	1,110	1,146
<b>Ethanol Prices</b>											
	(Dollars per gallon)										
Conventional rack, Omaha	1.83	1.75	1.83	1.95	2.01	2.06	2.10	2.15	2.13	2.08	2.04
AMS spot plant price, Iowa	1.65	1.58	1.66	1.76	1.82	1.86	1.90	1.95	1.93	1.88	1.85
Cellulosic rack	n.a.	n.a.	3.42	3.40	3.39	3.41	3.44	3.49	3.54	3.58	3.63
Other advanced rack	1.83	1.75	1.83	1.95	2.01	2.06	2.10	2.17	2.27	2.37	2.46
Effective retail	1.63	1.53	1.85	2.07	2.13	2.13	2.04	2.00	2.00	2.00	2.02
Ethanol/gasoline retail	78%	75%	72%	71%	69%	68%	67%	66%	66%	66%	66%

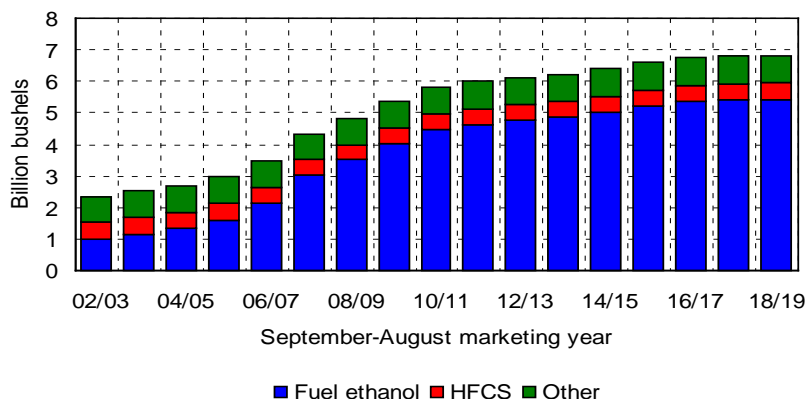
## Biofuel policies

Calendar year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Renewable Fuel Standard</b>											
	(Million gallons)										
Advanced biofuels	9,000	11,100	12,950	13,950	15,200	16,550	18,150	20,500	22,250	24,000	26,000
Cellulosic ethanol		600	950	1,350	2,000	2,750	3,750	5,500	7,250	9,000	11,000
Biodiesel			100	250	500	1,000	1,750	3,000	4,250	5,500	7,000
		500	650	800	1,000	1,000	1,000	1,000	1,000	1,000	1,000
<b>Taxes and tariffs</b>											
	(Dollars per gallon)										
Conv. ethanol tax credit	0.51	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Ethanol specific tariff	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
	(Percent)										
Ethanol ad-valorem tariff	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

# Corn processing

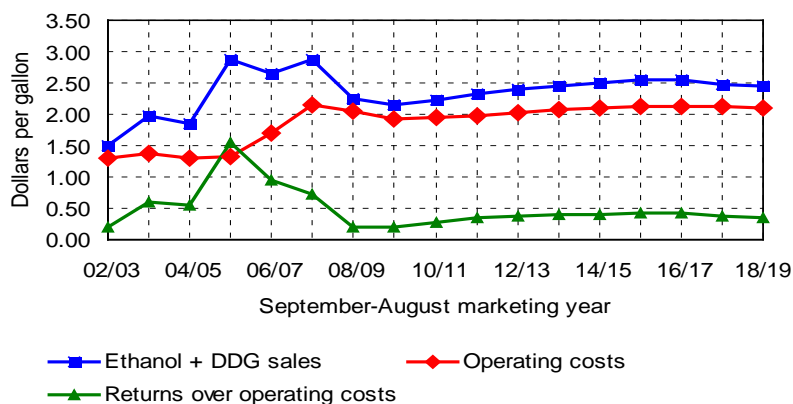
## Ethanol dominates processing use of corn

- Ethanol use accounts for most of the growth in corn food and industrial use.
- High-fructose corn syrup (HFCS) and other food and industrial uses of corn grow slowly over time.



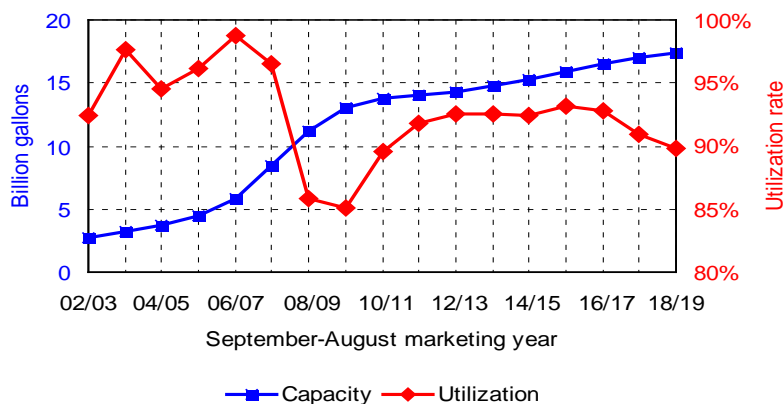
## Dry mill net returns have declined

- Falling petroleum and corn prices have reduced the value of ethanol and distillers grains in 2008/09.
- The narrow margins slow capacity growth. Capacity grows modestly to meet a portion of the EISA mandate.
- From 2009-2018, net returns over operating costs average about \$0.35 per gallon. Operating costs exclude capital costs; net profits would be lower.



## Ethanol capacity utilization falls, then recovers

- Lower returns and other factors have driven down utilization rates in the ethanol industry.
- Utilization rates again increase when petroleum and ethanol prices recover.
- The baseline assumes that new corn ethanol production capacity will qualify under the greenhouse gas requirements in EISA.



## Corn processing

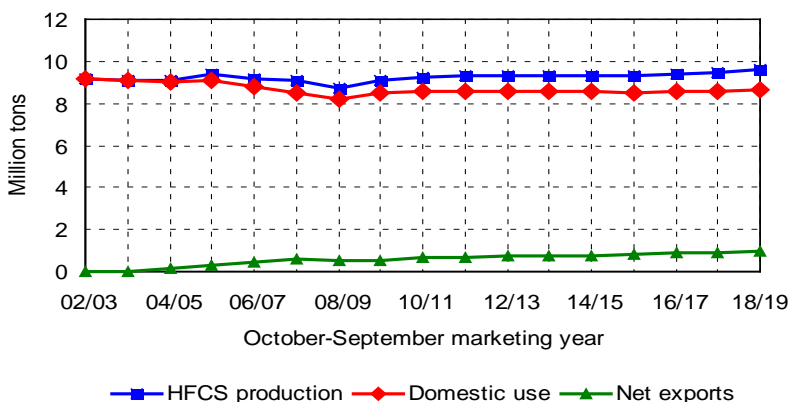
September-August year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>Corn food and industrial use</b>											
	(Million bushels)										
Fuel alcohol	3,518	4,031	4,473	4,638	4,747	4,872	5,025	5,232	5,375	5,403	5,429
HFCS	476	495	504	505	505	504	504	504	507	510	514
Glucose and dextrose	239	242	242	243	244	244	245	245	246	247	248
Starch	257	260	262	264	266	268	270	272	275	277	280
Beverage alcohol	135	137	138	139	140	141	142	143	144	145	147
Cereals and other	194	196	198	199	201	202	204	205	207	209	211
Total	4,819	5,361	5,818	5,989	6,102	6,231	6,390	6,602	6,754	6,792	6,829
<b>Corn dry milling</b>											
Corn dry milled for ethanol	3,109	3,597	3,998	4,151	4,257	4,375	4,520	4,715	4,852	4,879	4,907
(Share fractionating)	7.7%	8.4%	8.7%	9.2%	9.8%	10.3%	10.9%	11.5%	12.0%	12.6%	13.1%
<b>Yields per bushel of corn</b>											
	(Units per bushel)										
Ethanol (gallons)	2.74	2.75	2.77	2.78	2.80	2.81	2.83	2.84	2.86	2.87	2.89
Distillers grains (pounds)	16.90	16.89	16.89	16.89	16.88	16.88	16.87	16.86	16.86	16.85	16.84
<b>Costs and returns *</b>											
	(Dollars per gallon)										
Ethanol value	1.83	1.75	1.83	1.95	2.01	2.06	2.10	2.15	2.13	2.08	2.04
Distillers grains value	0.42	0.39	0.38	0.38	0.39	0.40	0.41	0.41	0.41	0.41	0.41
Corn cost	-1.42	-1.36	-1.37	-1.37	-1.40	-1.42	-1.44	-1.46	-1.45	-1.44	-1.43
Fuel and electricity cost	-0.30	-0.25	-0.25	-0.28	-0.30	-0.31	-0.33	-0.33	-0.33	-0.33	-0.33
Other operating costs	-0.33	-0.33	-0.33	-0.33	-0.33	-0.34	-0.34	-0.35	-0.35	-0.35	-0.36
Net operating return	0.20	0.20	0.27	0.35	0.38	0.38	0.39	0.43	0.41	0.36	0.33
<b>Corn wet milling</b>											
	(Million bushels)										
Corn wet milled for ethanol	409	434	476	487	490	497	505	517	523	524	522
Other corn wet milling	972	997	1,009	1,013	1,014	1,016	1,019	1,022	1,028	1,035	1,042
Total corn wet milling	1,381	1,431	1,484	1,499	1,504	1,513	1,525	1,539	1,551	1,559	1,564
<b>Yields per bushel of corn</b>											
	(Units per bushel)										
Ethanol (gallons)	2.69	2.70	2.71	2.71	2.72	2.73	2.74	2.74	2.75	2.76	2.77
Gluten feed (pounds)	11.40	11.40	11.40	11.40	11.40	11.40	11.40	11.40	11.40	11.40	11.40
Gluten meal (pounds)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Corn oil (pounds)	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70
<b>Costs and returns</b>											
	(Dollars per gallon)										
Ethanol value	1.83	1.75	1.83	1.95	2.01	2.06	2.10	2.15	2.13	2.08	2.04
Gluten feed value	0.22	0.20	0.20	0.20	0.20	0.21	0.21	0.21	0.21	0.21	0.21
Gluten meal value	0.26	0.24	0.23	0.22	0.22	0.23	0.23	0.23	0.23	0.23	0.23
Corn oil value	0.22	0.22	0.24	0.26	0.27	0.27	0.28	0.28	0.29	0.30	0.30
Corn cost	-1.44	-1.39	-1.40	-1.40	-1.44	-1.46	-1.49	-1.51	-1.51	-1.50	-1.49
Fuel and electricity cost	-0.23	-0.19	-0.19	-0.22	-0.23	-0.24	-0.26	-0.26	-0.26	-0.26	-0.26
Other operating costs	-0.52	-0.52	-0.52	-0.53	-0.53	-0.54	-0.54	-0.55	-0.55	-0.56	-0.56
Net operating return	0.33	0.31	0.38	0.49	0.51	0.52	0.53	0.56	0.55	0.50	0.47

\* Dry mill costs and returns for a plant that does not use a fractionation process to extract corn oil.

# Corn products

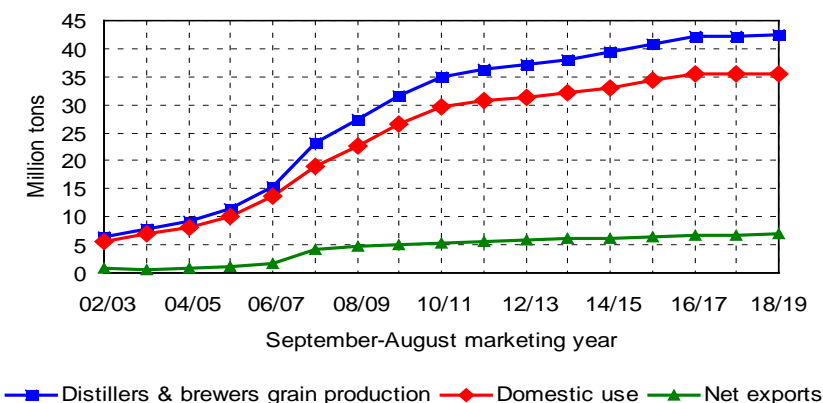
## High prices limit growth in HFCS use

- Domestic use of HFCS has declined since 2005/06. Projected use recovers in 2009/10, but is flat in later years, as per capita use resumes a slow decline.
- Growth in HFCS exports will depend on the degree that Mexico replaces sugar with HFCS in soft drinks.
- Relative to sugar prices, HFCS wholesale prices have risen sharply since 2005/06, discouraging growth in HFCS use.



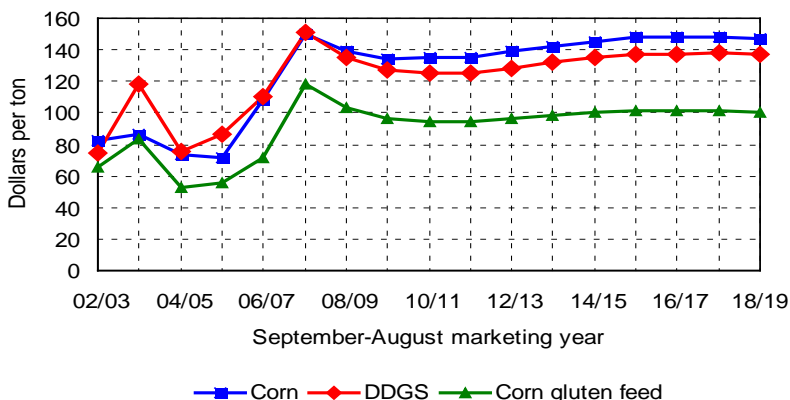
## Supplies of distillers grains increase rapidly

- Expanding dry mill ethanol production results in growing supplies of distillers grains.
- The table reports the sum of wet and dried distillers and brewers grains on a dry-equivalent basis.
- Most of the product is fed to US livestock, primarily beef and dairy cattle.
- Exports have increased rapidly, but remain modest relative to total supplies.



## Coproduct feed prices generally move with corn

- Over the long run, prices of distillers dried grains with solubles (DDGS) and corn gluten feed generally move with corn prices.
- Projected DDGS prices dip slightly below corn prices on a per-ton basis to encourage consumption of rapidly increasing supplies.



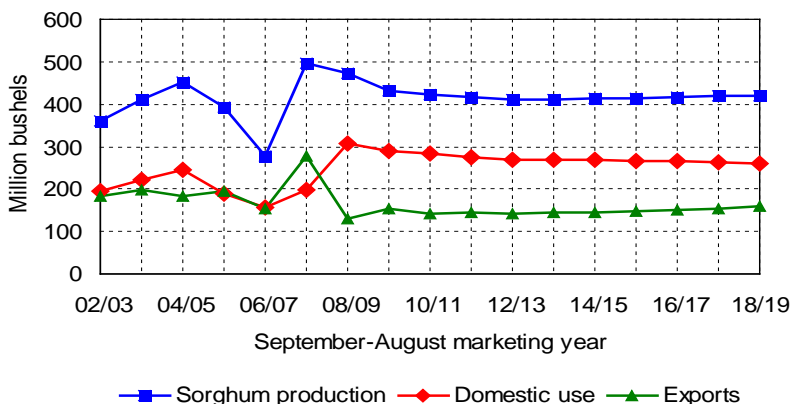
## Corn product supply and use

Marketing year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>High-fructose corn syrup</b>				(Thousand tons, Oct.-Sep. year)							
Production	8,705	9,057	9,255	9,282	9,295	9,304	9,326	9,349	9,409	9,494	9,583
Domestic use	8,196	8,502	8,583	8,584	8,568	8,553	8,547	8,533	8,545	8,581	8,621
Net exports	509	555	672	698	727	751	779	816	864	912	962
				(Cents per pound, Oct.-Sep. year)							
Price, 42% Midwest	24.57	24.32	23.49	23.64	24.01	24.30	24.65	24.94	24.96	24.92	24.85
<b>Distillers, brewers grains</b>				(Thousand tons, Sep.-Aug. year)							
Production (dry equiv.)	27,398	31,557	34,946	36,237	37,119	38,101	39,306	40,933	42,077	42,287	42,508
Domestic use	22,579	26,424	29,551	30,629	31,280	32,060	33,054	34,479	35,422	35,448	35,480
Net exports	4,820	5,133	5,395	5,608	5,838	6,041	6,252	6,454	6,656	6,839	7,029
				(Dollars per ton, Sep.-Aug. year)							
Price, Lawrenceburg, IN	135.19	126.76	125.08	125.52	128.40	131.86	134.80	136.89	137.26	138.14	137.52
<b>Corn gluten feed</b>				(Thousand tons, Sep.-Aug. year)							
Production	7,869	8,154	8,461	8,546	8,576	8,627	8,691	8,773	8,840	8,884	8,917
Domestic use	6,299	6,557	6,865	6,968	7,033	7,114	7,205	7,312	7,398	7,463	7,515
Net exports	1,570	1,597	1,597	1,578	1,543	1,513	1,486	1,460	1,443	1,420	1,402
				(Dollars per ton, Sep.-Aug. year)							
Price, 21%, IL points	103.04	96.18	94.38	94.30	96.28	98.53	100.36	101.68	101.49	101.64	100.76
<b>Corn gluten meal</b>				(Thousand tons, Sep.-Aug. year)							
Production	2,071	2,146	2,227	2,249	2,257	2,270	2,287	2,309	2,326	2,338	2,347
Domestic use	908	960	1,023	1,034	1,031	1,036	1,043	1,053	1,060	1,061	1,059
Net exports	1,162	1,186	1,203	1,214	1,226	1,234	1,244	1,256	1,266	1,277	1,288
				(Dollars per ton, Sep.-Aug. year)							
Price, 60%, IL points	461.38	424.46	407.37	405.51	402.90	411.56	418.89	417.11	418.74	419.52	415.35
<b>Corn oil</b>				(Million pounds, Oct.-Sep. year)							
Production	2,524	2,653	2,780	2,831	2,865	2,908	2,957	3,017	3,069	3,104	3,138
Domestic use	1,705	1,829	1,971	2,031	2,059	2,102	2,145	2,203	2,257	2,292	2,324
Net exports	819	821	814	808	808	808	810	813	813	813	814
Ending stocks	204	208	202	194	193	191	193	194	194	192	192
				(Cents per pound, Oct.-Sep. year)							
Chicago price	34.45	35.16	38.48	41.60	42.67	44.09	44.69	45.42	46.80	47.99	48.87

# Sorghum and barley

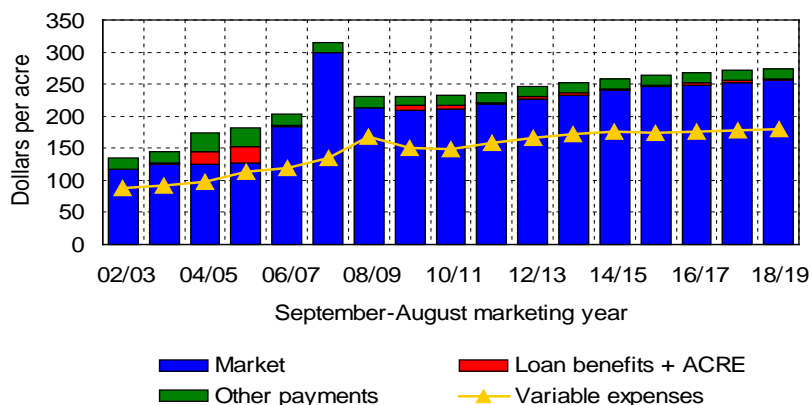
## Sorghum exports fall back after 2007/08 jump

- US sorghum exports increased sharply in 2007/08 in response to reduced grain production in Europe and a large US sorghum crop.
- The recovery in EU grain production in 2008 contributes to a sharp decline in 2008/09 US sorghum exports.
- Sorghum prices generally move with corn prices so that sorghum is competitive in feed rations.



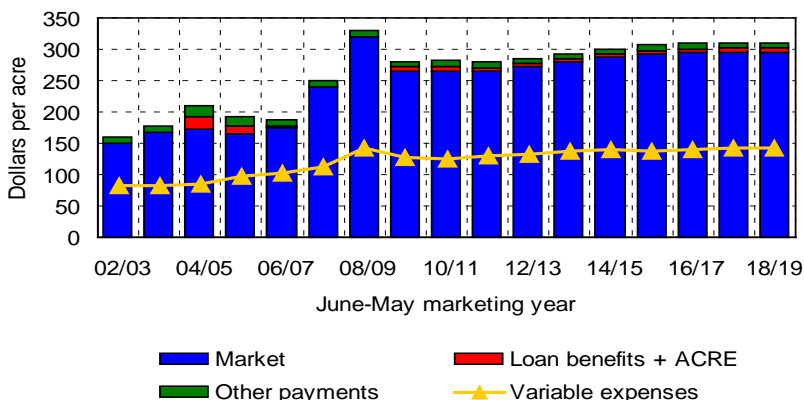
## Sorghum net returns also fall from 2007/08 spike

- High sorghum prices and record yields resulted in a large jump in the per-acre value of sorghum production in 2007/08.
- Sorghum prices and yields decline in 2008/09, sharply reducing the market value of sorghum production.
- Variable expenses also increased sharply in 2008/09, further reducing sorghum net returns. Lower expenses result in higher net returns in 2009/10.



## Barley net returns peak in 2008/09

- Higher contract prices for malting barley result in sharply higher average barley producer net returns in 2008/09.
- With larger supplies, malting barley prices fall back in 2009/10, reducing barley net returns.
- The figure shows average barley returns. Malting and feed barley producers may have very different experiences than suggested by these all-barley averages.





## Sorghum supply and use

September-August year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>Area</b>	(Million acres)										
Planted area	8.28	7.82	7.67	7.54	7.45	7.46	7.47	7.49	7.51	7.53	7.54
Harvested area	7.27	6.64	6.50	6.37	6.29	6.28	6.27	6.28	6.28	6.28	6.28
<b>Yield</b>	(Bushels per acre)										
	65.0	64.8	64.9	65.2	65.3	65.5	65.6	65.9	66.2	66.4	66.6
<b>Supply and use</b>	(Million bushels)										
Production	472	431	423	416	412	412	413	415	417	418	420
Imports	0	0	0	0	0	0	0	0	0	0	0
Domestic use	307	288	284	274	270	268	268	267	266	263	259
Exports	130	153	142	145	143	145	146	147	151	154	159
Ending stocks	88	78	75	73	72	71	71	71	71	72	74
<b>Prices, returns and payments</b>	(Dollars)										
Farm price/bu.	3.29	3.25	3.29	3.37	3.50	3.59	3.68	3.76	3.80	3.84	3.86
Gross market revenue/a.	213.65	208.98	211.32	218.12	227.17	233.52	239.78	245.72	249.29	252.93	255.41
Variable expenses/a.	167.32	150.21	149.44	158.39	165.44	172.08	175.36	173.95	175.35	177.53	179.22
Market net return/a.	46.33	58.77	61.88	59.72	61.73	61.44	64.41	71.77	73.94	75.40	76.19
Marketing loan benefits/a.*	0.00	0.02	0.09	0.02	0.06	0.00	0.00	0.00	0.00	0.00	0.00
ACRE payment/a.*	n.a.	7.33	5.48	3.32	2.99	2.64	2.30	2.60	2.64	3.13	3.18
CCP payment/base a.*	0.00	0.03	0.16	0.07	0.09	0.01	0.02	0.01	0.00	0.00	0.00
Direct payment/base a.*	16.84	15.18	14.85	14.85	15.15	15.15	15.15	15.15	15.15	15.15	15.15

## Barley supply and use

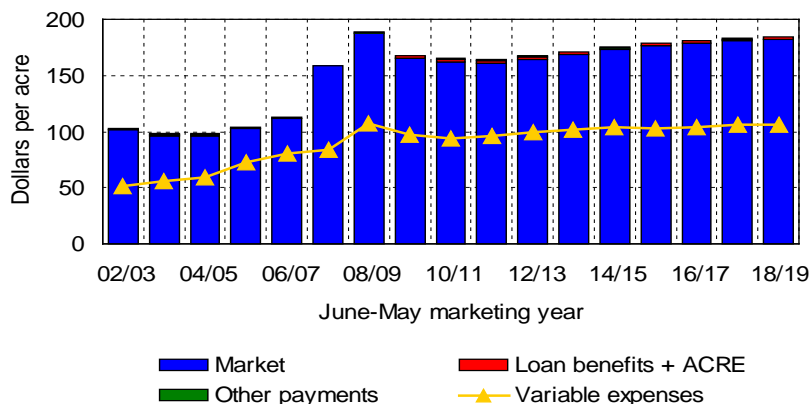
June-May year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>Area</b>	(Million acres)										
Planted area	4.23	4.37	4.39	4.42	4.35	4.29	4.26	4.21	4.16	4.11	4.04
Harvested area	3.77	3.78	3.80	3.83	3.76	3.72	3.69	3.64	3.60	3.56	3.49
<b>Yield</b>	(Bushels per acre)										
	63.6	63.7	64.4	65.0	65.6	66.3	66.7	67.4	68.1	68.7	69.3
<b>Supply and use</b>	(Million bushels)										
Production	239	241	245	249	247	247	247	246	246	245	243
Imports	30	28	27	26	26	26	26	25	25	25	25
Domestic use	239	242	246	249	248	247	246	245	244	244	241
Exports	20	21	24	25	26	26	26	26	26	26	26
Ending stocks	78	85	87	89	89	89	89	89	90	91	91
<b>Prices, returns and payments</b>	(Dollars)										
All barley farm price/bu.	5.04	4.19	4.12	4.09	4.17	4.26	4.33	4.38	4.36	4.33	4.28
Feed barley price/bu.	3.85	3.42	3.41	3.40	3.49	3.56	3.63	3.69	3.68	3.66	3.63
Gross market revenue/a.	320.46	265.23	264.03	264.06	272.30	280.54	287.21	293.55	295.30	295.83	295.33
Variable expenses/a.	142.15	127.63	124.58	128.91	132.71	136.64	139.15	138.42	139.56	141.34	142.38
Market net return/a.	178.30	137.59	139.45	135.15	139.59	143.90	148.06	155.13	155.75	154.49	152.95
Marketing loan benefits/a.*	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.01
ACRE payment/a.*	n.a.	6.50	9.38	6.64	5.53	4.47	4.44	5.18	5.31	6.11	6.09
CCP payment/base a.*	0.00	0.00	0.03	0.02	0.03	0.02	0.01	0.00	0.02	0.02	0.02
Direct payment/base a.*	9.71	8.37	8.09	8.09	8.25	8.25	8.25	8.25	8.25	8.25	8.25

\*Figures reported are averages across ACRE participants and nonparticipants. All table figures are averages across 500 outcomes.

# Oats and hay

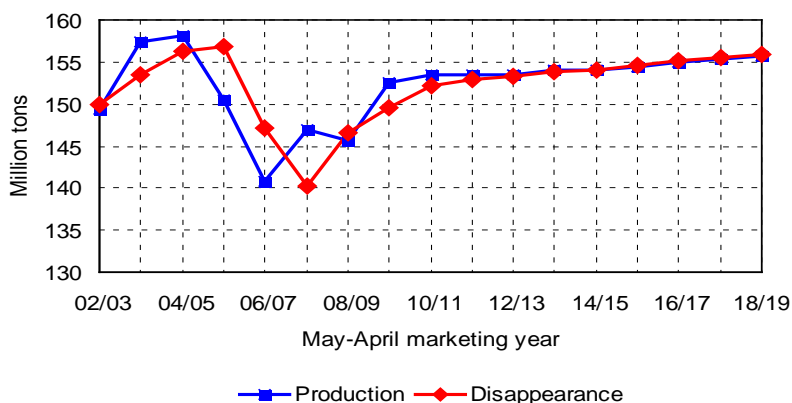
## Oats receipts dip, but stay above pre-2008/09 levels

- Rising global market demand for all grains in 2007/08 and reduced US oats imports in 2008/09 contributed to two straight years of sharp increases in oats prices and market receipts.
- Like many other crops, much of the increase in market receipts was offset by rising production costs for oats producers.
- Both receipts and expenses dip in 2009/10, but remain above pre-2008/09 levels.



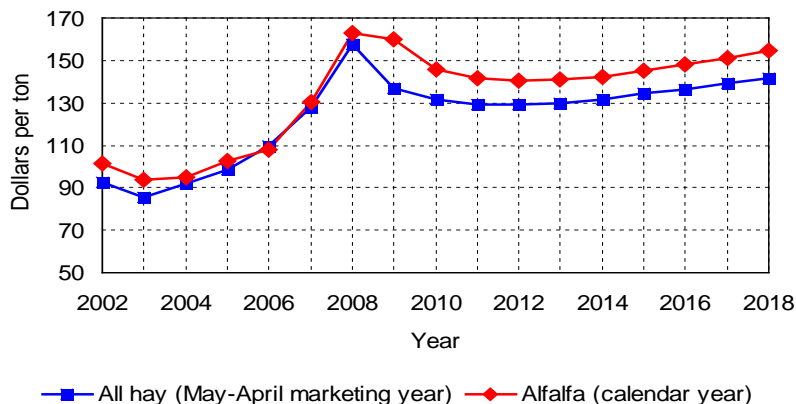
## Hay production recovers

- Slightly lower hay production and a rebound in disappearance result in very tight hay markets in 2008/09.
- A projected modest increase in both area harvested and yields allows hay stocks to rebuild in 2009/10.
- Hay area remains fairly stable after 2009/10, so the projected increase in production is a result of slow growth in yields per acre.



## Hay prices decline from 2008/09 record

- Tight supplies led to record hay prices in 2008/09.
- As hay supplies increase relative to cattle numbers, hay prices fall in 2009/10, but remain high by historical standards.
- Hay markets are more fragmented than markets for most other agricultural commodities, so trends in national average prices may not reflect local conditions.



## Oats supply and use

June-May year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>Area</b>	(Million acres)										
Planted area	3.22	3.55	3.54	3.48	3.40	3.36	3.31	3.27	3.23	3.19	3.14
Harvested area	1.40	1.50	1.49	1.45	1.41	1.39	1.36	1.34	1.32	1.30	1.28
<b>Yield</b>	(Bushels per acre)										
	63.5	62.7	63.0	63.4	63.6	64.0	64.3	64.7	65.0	65.4	65.7
<b>Supply and use</b>	(Million bushels)										
Production	89	94	94	92	90	89	88	87	86	85	84
Imports	110	107	106	106	107	108	108	109	109	109	109
Domestic use	197	194	195	195	194	194	193	192	192	191	190
Exports	3	3	3	3	3	3	3	3	3	3	3
Ending stocks	65	70	72	73	73	73	73	73	73	73	73
<b>Prices, returns and payments</b>	(Dollars)										
Farm price/bu.	2.96	2.64	2.57	2.55	2.59	2.65	2.70	2.74	2.76	2.77	2.78
Gross market revenue/a.	188.17	165.22	161.53	161.14	164.41	168.60	172.84	176.36	178.73	180.61	181.95
Variable expenses/a.	107.20	97.49	93.55	96.26	98.92	101.89	103.84	103.25	104.16	105.59	106.45
Market net return/a.	80.97	67.73	67.97	64.88	65.49	66.71	69.00	73.10	74.57	75.02	75.50
Marketing loan benefits/a.*	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00
ACRE payment/a.*	n.a.	1.93	2.60	2.24	2.07	1.97	1.86	1.90	1.83	2.00	1.99
CCP payment/base a.*	0.00	0.00	0.01	0.02	0.02	0.03	0.02	0.02	0.01	0.00	0.01
Direct payment/base a.*	0.99	0.85	0.82	0.82	0.84	0.84	0.84	0.84	0.84	0.84	0.84

\*Figures reported are averages across ACRE participants and nonparticipants. All table figures are averages across 500 outcomes.

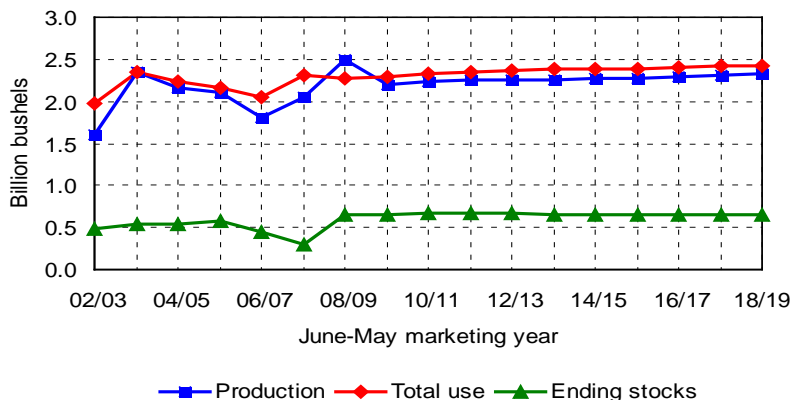
## Hay supply and use

May-April year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>Harvested area</b>	(Million acres)										
	60.1	61.7	61.9	61.7	61.5	61.4	61.3	61.2	61.2	61.2	61.2
<b>Yield</b>	(Tons per acre)										
	2.43	2.47	2.48	2.49	2.50	2.51	2.51	2.52	2.53	2.54	2.55
<b>Supply and use</b>	(Million tons)										
Production	145.7	152.6	153.4	153.5	153.5	154.0	154.1	154.3	154.9	155.4	155.7
Disappearance	146.5	149.6	152.2	152.9	153.3	153.8	154.1	154.5	155.1	155.5	156.0
Ending stocks	20.7	23.7	24.9	25.5	25.7	25.9	25.9	25.7	25.6	25.5	25.3
<b>Prices</b>	(Dollars per ton)										
All hay (crop year)	157.29	136.82	131.80	129.40	129.23	129.78	131.70	134.49	136.60	139.08	141.90
Alfalfa (calendar year)	162.77	160.11	145.95	141.77	140.48	140.80	142.46	145.42	148.31	151.14	154.39

# Wheat

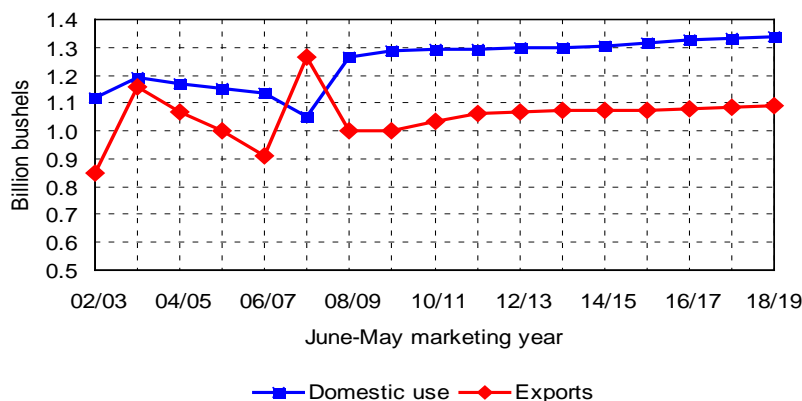
## Large US crop helps wheat stocks rebuild

- Increased area and record yields resulted in sharply higher US wheat production in 2008/09.
- The increase in supplies and weak exports allow wheat stocks to rebuild.
- Reduced area and more normal yields result in lower wheat production in 2009/10.
- Average wheat stocks remain near the elevated 2008/09 levels over the baseline.



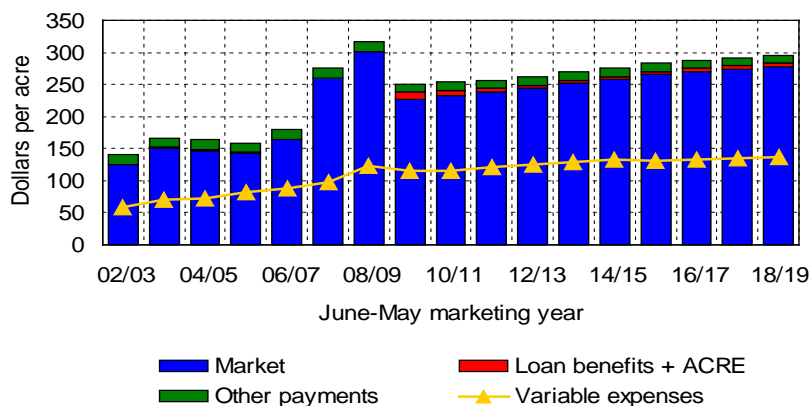
## Wheat exports decline as foreign supplies recover

- Poor wheat crops in Europe, Australia and other exporters contributed to a large increase in US wheat exports in 2007/08.
- Much larger crops in major competitors limit US wheat exports in 2008/09. Future growth in exports is modest.
- Domestic wheat use jumps in 2008/09 because of a rebound in wheat feed use. Wheat feed use is very sensitive to relative prices of feed quality wheat and corn.



## Wheat net returns peak in 2008/09

- The sharp increase in wheat prices dramatically increased producer returns over variable expenses in 2007/08.
- Continued high prices and record yields result in even greater wheat market receipts in 2008/09, but sharply higher production expenses limit the increase in net returns.
- Lower prices and more normal yields result in a significant decline in average producer net returns in 2009/10.



## Wheat supply and use

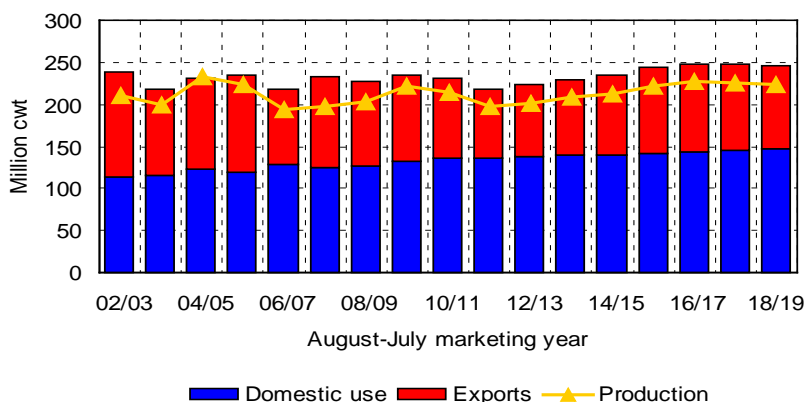
June-May year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>Area</b>	(Million acres)										
Planted area	63.1	59.7	59.8	59.7	59.6	59.2	58.8	58.5	58.4	58.2	57.9
Harvested area	55.7	51.0	51.0	50.9	50.9	50.5	50.2	50.0	49.9	49.7	49.5
<b>Yield</b>	(Bushels per harvested acre)										
	44.9	42.9	43.7	44.1	44.4	44.8	45.1	45.6	46.0	46.4	46.8
<b>Supply</b>	(Million bushels)										
Beginning stocks	2,915	2,945	2,996	3,023	3,036	3,034	3,035	3,039	3,052	3,069	3,081
Production	306	651	660	668	669	666	658	653	648	651	651
Imports	2,500	2,192	2,233	2,251	2,263	2,263	2,270	2,279	2,296	2,312	2,321
	110	102	102	104	104	105	106	107	108	108	109
<b>Domestic use</b>	1,263	1,286	1,295	1,293	1,301	1,301	1,306	1,315	1,325	1,333	1,340
Feed and residual	227	233	231	218	217	208	205	205	204	202	199
Seed	82	83	83	83	83	82	82	82	82	82	82
Food and other	954	971	981	992	1,001	1,010	1,019	1,028	1,039	1,049	1,060
<b>Exports</b>	1,001	998	1,032	1,062	1,069	1,075	1,076	1,076	1,079	1,085	1,089
<b>Total use</b>	2,264	2,285	2,327	2,355	2,370	2,376	2,382	2,391	2,404	2,418	2,429
<b>Ending stocks</b>	651	660	668	669	666	658	653	648	648	651	652
CCC inventory	0	0	0	0	0	0	0	0	0	0	0
Under loan	6	13	16	15	15	14	13	12	12	12	12
Other stocks	645	647	652	653	651	644	640	636	636	638	639
<b>Prices, program provisions</b>	(Dollars per bushel)										
Farm price	6.72	5.30	5.33	5.42	5.50	5.64	5.75	5.85	5.89	5.93	5.95
Loan rate	2.75	2.75	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
Target price	3.92	3.92	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17
Direct payment rate	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
<b>Base area</b>	(Million acres)										
	74.8	74.9	75.0	75.0	75.1	75.1	75.1	75.1	75.1	75.1	75.1
<b>Direct payment yield</b>	(Bushels per acre)										
	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5
<b>CCP yield</b>	(Percent)										
	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1	36.1
<b>ACRE participation rate</b>	(Percent)										
	n.a.	60.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
<b>Returns and payments</b>	(Dollars)										
Gross market revenue/a.	301.63	226.49	232.07	238.35	243.54	251.61	258.81	265.74	270.12	274.04	277.70
Variable expenses/a.	123.67	115.83	114.79	120.53	125.31	129.80	132.63	131.95	133.16	135.02	136.04
Market net return/a.	177.96	110.65	117.28	117.82	118.23	121.81	126.18	133.79	136.96	139.02	141.66
Marketing loan benefits/a.*	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.01
ACRE payment/a.*	n.a.	11.34	9.37	5.58	4.84	4.60	4.02	4.49	4.75	5.10	5.11
CCP payment/base a.*	0.00	0.01	0.02	0.03	0.03	0.02	0.02	0.01	0.00	0.01	0.01
Direct payment/base a.*	15.25	13.15	12.70	12.70	12.96	12.96	12.96	12.96	12.96	12.96	12.96

\*Figures reported are averages across ACRE participants and nonparticipants. All table figures are averages across 500 outcomes.

# Rice

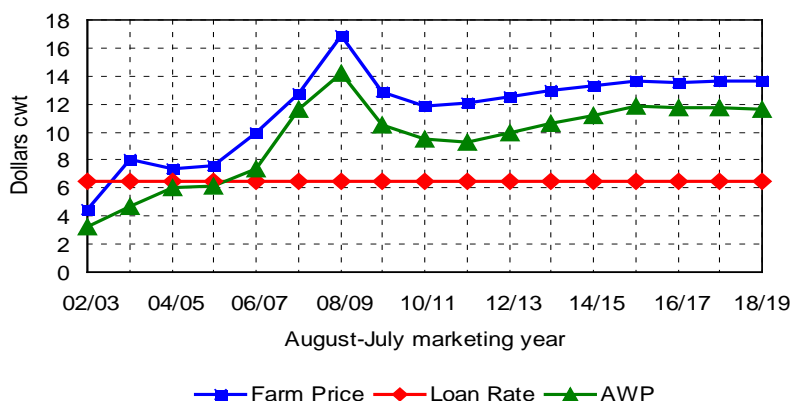
## Rice exports are constrained by production

- In spite of record world prices, US rice exports decline in 2008/09, as reduced beginning stocks and imports limit available supplies.
- A projected increase in 2009 rice production allows stocks to rebuild and exports to increase slightly.
- Domestic rice use increases over the baseline, primarily because of population growth.



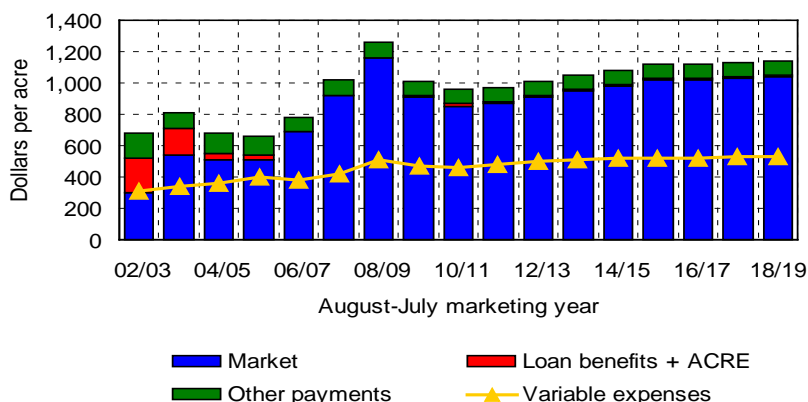
## Rice prices decline from the 2008/09 record

- International rice prices reached record levels in 2008, in response to tight global grain supplies and policies that limited exports from several major countries.
- Increased world rice production has resulted in lower prices in recent months, and may result in 2009/10 prices that are far below the 2008 peak.
- Projected average rice prices increase moderately after 2010/11, but remain below the 2008/09 level.



## Higher rice prices reduce payments, raise returns

- Higher rice prices result in a third straight year of sharp increases in rice market receipts per acre in 2008/09.
- While variable production expenses also rose sharply, net returns over operating costs increase in 2008/09.
- Lower prices reduce market receipts and net returns in 2009/10.
- At projected prices, only the fixed direct payment program makes significant payments to rice producers.



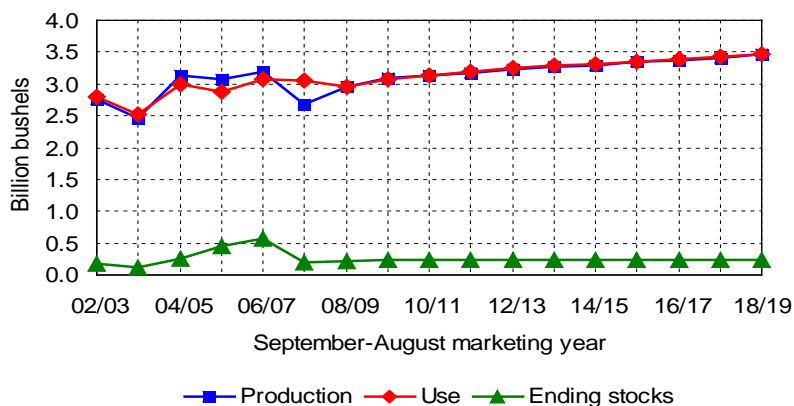
## Rice supply and use

August-July year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>Area</b>											
					(Million acres)						
Planted area	3.00	3.15	3.00	2.74	2.78	2.85	2.90	3.00	3.04	2.98	2.94
Harvested area	2.98	3.14	2.98	2.73	2.77	2.84	2.88	2.98	3.02	2.96	2.92
					(Pounds per harvested acre)						
<b>Yield</b>	6,846	7,080	7,150	7,223	7,284	7,337	7,391	7,451	7,513	7,573	7,640
					(Million hundredweight)						
<b>Supply</b>	251.4	265.4	264.2	250.6	255.2	261.9	267.8	277.9	284.0	283.6	283.0
Beginning stocks	29.4	23.2	30.3	32.7	32.3	32.3	32.9	33.5	34.6	36.3	36.5
Production	203.7	222.0	213.5	197.0	201.7	208.1	213.2	222.4	227.1	224.6	223.4
Imports	18.2	20.1	20.4	20.9	21.2	21.5	21.7	22.0	22.4	22.7	23.1
<b>Domestic use</b>	127.2	133.0	135.4	136.8	137.9	139.0	140.3	141.4	143.3	144.9	146.6
<b>Exports</b>	101.0	102.1	96.1	81.5	84.9	90.0	94.0	101.8	104.4	102.1	99.6
<b>Total use</b>	228.2	235.1	231.5	218.3	222.8	229.0	234.3	243.3	247.8	247.1	246.2
<b>Ending stocks</b>	23.2	30.3	32.7	32.3	32.3	32.9	33.5	34.6	36.3	36.5	36.8
CCC inventory	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other stocks	23.2	30.3	32.7	32.3	32.3	32.9	33.5	34.6	36.3	36.5	36.8
<b>Prices, program provisions</b>					(Dollars per hundredweight)						
Farm price	16.93	12.87	11.91	12.03	12.48	12.94	13.27	13.69	13.54	13.60	13.59
Adjusted world price	14.16	10.47	9.45	9.26	9.93	10.67	11.14	11.82	11.77	11.74	11.62
Loan rate	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Target price	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50
Direct payment rate	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35
					(Million acres)						
Base area	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48
					(Pounds per acre)						
Direct payment yield	4,820	4,820	4,820	4,820	4,820	4,820	4,820	4,820	4,820	4,820	4,820
CCP yield	5,128	5,128	5,128	5,128	5,128	5,128	5,128	5,128	5,128	5,128	5,128
					(Percent)						
ACRE participation rate	n.a.	20.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
<b>Returns and payments</b>					(Dollars)						
Gross market revenue/a.	1158.96	910.79	850.66	867.87	908.57	948.92	979.87	1019.39	1019.18	1028.70	1037.24
Variable expenses/a.	514.21	467.05	457.29	478.26	495.23	511.66	519.74	515.76	519.94	526.59	532.31
Market net return/a.	644.74	443.73	393.38	389.61	413.34	437.26	460.13	503.63	499.24	502.11	504.93
Marketing loan benefits/a.*	0.00	2.16	5.64	7.19	4.56	4.13	2.60	2.86	3.14	2.91	3.51
ACRE payment/a.*	n.a.	8.09	16.53	8.73	4.49	4.73	4.92	4.76	6.57	6.45	6.86
CCP payment/base a.*	0.00	0.03	0.61	0.41	0.33	0.67	0.65	0.84	0.94	0.86	0.87
Direct payment/base a.*	96.27	90.57	89.63	89.63	91.46	91.46	91.46	91.46	91.46	91.46	91.46

\*Figures reported are averages across ACRE participants and nonparticipants. All table figures are averages across 500 outcomes.

# Soybeans

Soybean use keeps pace with production growth

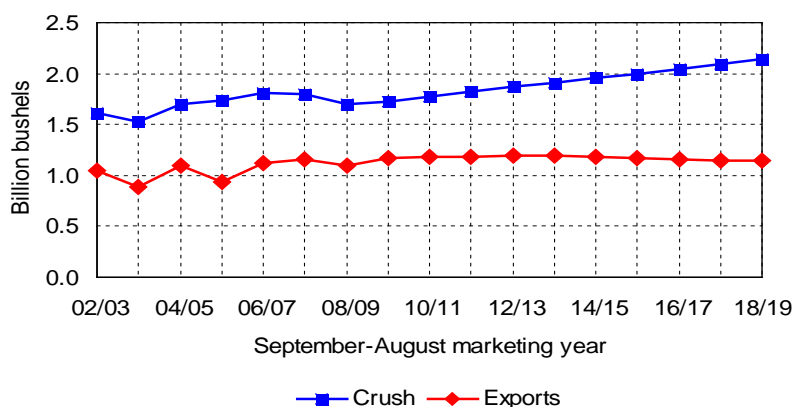


■ Soybean acreage and production rebounded in 2008 after declining sharply in 2007.

■ Ending stocks remain roughly flat at 2007/08 levels, as production and use are in close balance throughout the baseline.

■ With stocks relatively tight, soybean prices are likely to be volatile, as even small shocks to supply or demand would disturb the projected balance.

Soybean crush dips in 2008/09, then expands

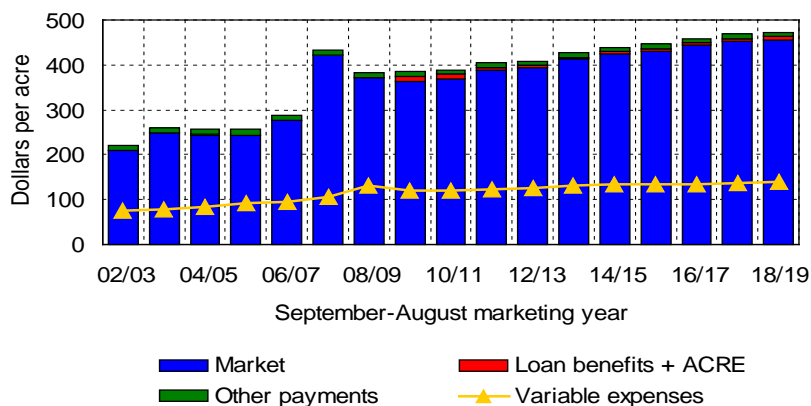


■ Limited soybean supplies and weaker domestic demand for soybean oil and soybean meal result in lower soybean crush in 2008/09.

■ Projected crush increases after 2008/09 in response to increased domestic and world demand for soybean products.

■ Soybean exports remain over 1.1 billion bushels per year from 2008/09-2018/19. Increased South American supplies are offset by increased demand from China and other importers.

Soybean returns remain well above pre-2007 levels



■ Higher soybean prices dramatically increased producer returns over variable expenses in 2007/08.

■ Lower soybean prices and yields reduce soybean market receipts per acre in 2008/09, and higher production costs further reduce net returns.

■ Soybean returns must remain well above pre-2007 levels for soybeans to maintain competitiveness with corn production.



## Soybean supply and use

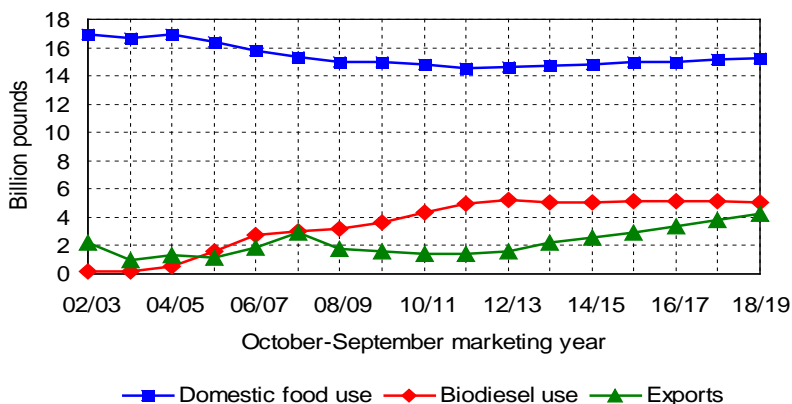
September-August year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>Area</b>	(Million acres)										
Planted area	75.7	75.1	75.4	75.6	76.6	76.5	76.7	77.0	76.8	77.0	77.5
Harvested area	74.6	74.0	74.3	74.5	75.6	75.5	75.6	76.0	75.8	75.9	76.5
<b>Yield</b>	(Bushels per harvested acre)										
	39.6	41.8	42.1	42.6	42.9	43.3	43.6	44.1	44.5	44.9	45.3
<b>Supply</b>	(Million bushels)										
Beginning stocks	205	209	242	244	237	238	232	229	234	232	232
Production	2,959	3,096	3,133	3,173	3,241	3,267	3,300	3,351	3,374	3,411	3,460
Imports	9	9	9	9	9	9	9	9	9	9	9
<b>Domestic use</b>	1,863	1,904	1,958	2,004	2,053	2,092	2,135	2,180	2,225	2,273	2,325
Crush	1,698	1,729	1,779	1,823	1,871	1,911	1,953	1,998	2,041	2,088	2,137
Seed and residual	165	174	179	181	182	181	182	183	183	185	188
<b>Exports</b>	1,101	1,168	1,181	1,186	1,196	1,190	1,177	1,174	1,161	1,146	1,141
<b>Total use</b>	2,964	3,072	3,139	3,190	3,248	3,282	3,312	3,355	3,386	3,419	3,466
<b>Ending stocks</b>	209	242	244	237	238	232	229	234	232	232	236
CCC inventory	0	0	0	0	0	0	0	0	0	0	0
Under loan	12	20	22	21	21	19	19	20	19	20	20
Other stocks	197	221	223	216	217	214	211	215	213	213	215
<b>Prices, program provisions</b>	(Dollars per bushel)										
Farm price	9.37	8.76	8.81	9.17	9.21	9.59	9.79	9.84	10.02	10.13	10.10
Illinois processor price	10.02	9.43	9.48	9.83	9.87	10.24	10.43	10.48	10.66	10.76	10.73
Loan rate	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Target price	5.80	5.80	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Direct payment rate	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
<b>Base area</b>	(Million acres)										
	52.0	52.1	52.1	52.2	52.2	52.2	52.2	52.2	52.2	52.2	52.2
<b>Direct payment yield</b>	(Bushels per acre)										
	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8
<b>CCP yield</b>	(Percent)										
	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1
<b>ACRE participation rate</b>	(Percent)										
	n.a.	60.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
<b>Returns and payments</b>	(Dollars)										
Gross market revenue/a.	371.38	363.92	368.67	387.43	392.47	412.54	424.89	430.51	443.10	451.97	454.27
Variable expenses/a.	131.45	120.72	118.81	123.04	126.51	130.55	133.33	133.54	135.18	137.19	138.86
Market net return/a.	239.93	243.20	249.86	264.38	265.97	281.99	291.56	296.97	307.92	314.77	315.41
Marketing loan benefits/a.*	0.00	0.00	0.03	0.04	0.07	0.02	0.02	0.02	0.04	0.02	0.00
ACRE payment/a.*	n.a.	11.50	11.31	6.80	6.51	4.81	5.02	5.98	5.87	7.29	8.09
CCP payment/base a.*	0.00	0.00	0.04	0.04	0.04	0.01	0.02	0.03	0.02	0.03	0.01
Direct payment/base a.*	11.52	9.93	9.60	9.60	9.79	9.79	9.79	9.79	9.79	9.79	9.79
<b>Product prices, crush margin</b>											
48% meal price/ton	297.02	267.16	253.98	252.61	250.38	257.67	263.89	262.55	264.03	264.70	261.18
Oil price/cwt.	35.32	36.38	40.07	43.34	44.48	45.99	46.69	47.56	49.06	50.33	51.27
Bioediesel rack/gallon	3.46	3.45	3.80	4.11	4.22	4.33	4.38	4.46	4.58	4.71	4.80
Crush margin/bu.	1.08	1.09	1.15	1.14	1.17	1.16	1.19	1.21	1.24	1.30	1.35

\*Figures reported are averages across ACRE participants and nonparticipants. All table figures are averages across 500 outcomes.

# Soybean products

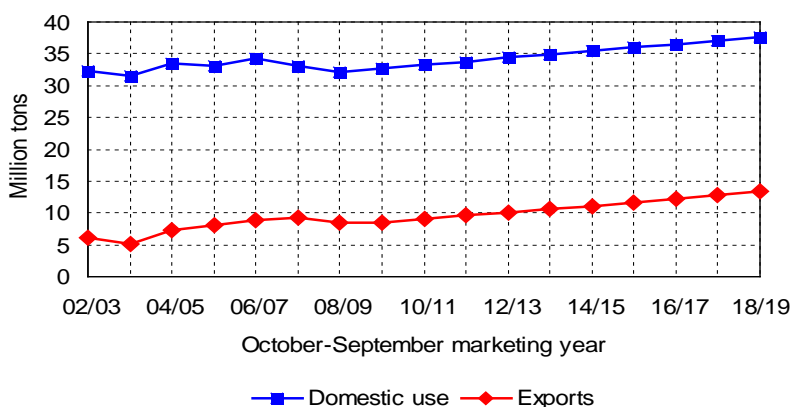
## Domestic food use of soybean oil declines

- In spite of sharply lower prices, domestic use of soybean oil for purposes other than biodiesel production falls in 2008/09 for the fourth straight year.
- Increasing amounts of soybean oil are used to produce biodiesel.
- Global demand for vegetable oil weakened in 2008/09, reducing US soybean oil exports and prices. Exports only recover once biodiesel use levels off after 2012/13.



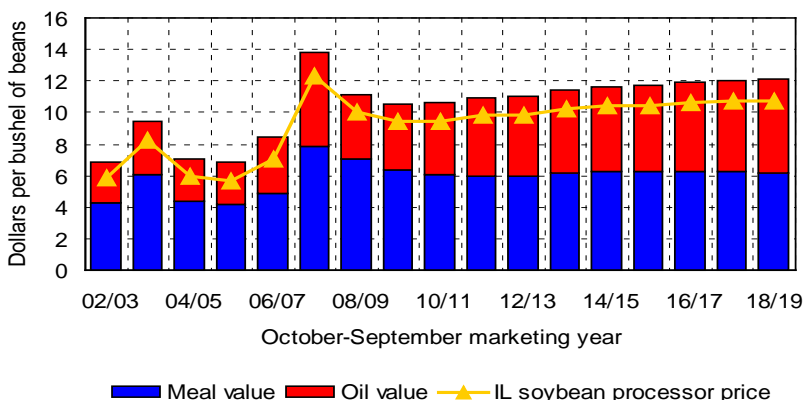
## Soybean meal use dips in 2008/09 then recovers

- Reduced livestock and poultry production contributes to lower 2008/09 domestic use of soybean meal.
- A resumption of moderate growth in livestock production contributes to increased soybean meal use beginning in 2009/10.
- Soybean meal exports increase in the latter half of the baseline as soybean meal prices fall relative to other feeds.



## Oil share of crush value is volatile

- Weaker global demand reduces the value of soybean oil in a bushel of soybeans in 2008/09.
- The Illinois soybean processor price falls much more than the farm price in 2008/09. The farm price is weighted by monthly marketings, and this held down the 2007/08 average.



## Soybean oil supply and use

October-September year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
(Million pounds)											
<b>Supply</b>	22,016	21,996	22,191	22,549	23,030	23,516	23,983	24,512	24,981	25,472	25,992
Beginning stocks	2,483	2,105	1,726	1,580	1,515	1,538	1,525	1,543	1,511	1,468	1,425
Production	19,484	19,841	20,415	20,919	21,465	21,928	22,408	22,919	23,420	23,953	24,517
Imports	50	50	50	50	50	50	50	50	50	50	50
<b>Domestic use</b>	18,169	18,676	19,169	19,582	19,860	19,762	19,869	20,071	20,143	20,246	20,327
Biodiesel	3,194	3,650	4,345	4,997	5,202	5,068	5,028	5,123	5,115	5,117	5,060
Food and other	14,975	15,026	14,824	14,585	14,658	14,694	14,840	14,948	15,028	15,129	15,267
<b>Exports</b>	1,743	1,595	1,442	1,453	1,632	2,229	2,571	2,930	3,370	3,801	4,250
<b>Total use</b>	19,911	20,271	20,611	21,034	21,492	21,991	22,440	23,001	23,513	24,047	24,577
<b>Ending stocks</b>	2,105	1,726	1,580	1,515	1,538	1,525	1,543	1,511	1,468	1,425	1,415
(Cents per pound)											
<b>Price</b>											
Decatur	35.32	36.38	40.07	43.34	44.48	45.99	46.69	47.56	49.06	50.33	51.27

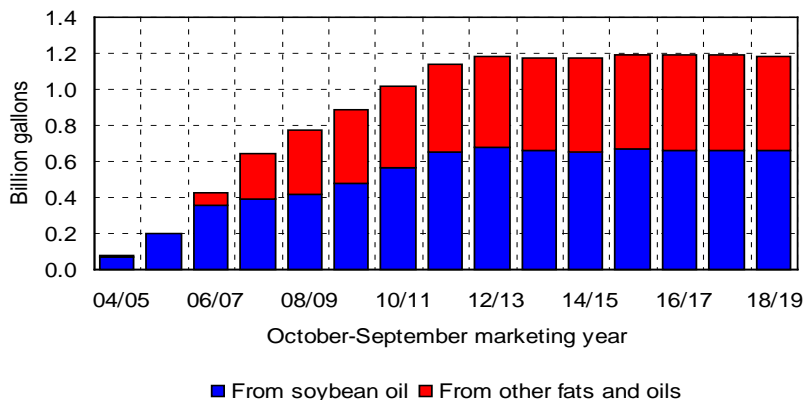
## Soybean meal supply and use

October-September year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
(Thousand tons)											
<b>Supply</b>	40,789	41,540	42,720	43,777	44,915	45,877	46,872	47,928	48,968	50,072	51,240
Beginning stocks	294	305	298	310	319	323	324	323	324	325	326
Production	40,330	41,071	42,258	43,302	44,432	45,389	46,383	47,440	48,479	49,582	50,749
Imports	165	165	165	165	165	165	165	165	165	165	165
<b>Domestic use</b>	32,086	32,688	33,323	33,774	34,506	34,934	35,459	36,068	36,497	36,997	37,585
<b>Exports</b>	8,398	8,555	9,087	9,684	10,086	10,619	11,090	11,536	12,146	12,749	13,326
<b>Total use</b>	40,484	41,242	42,410	43,458	44,592	45,553	46,549	47,604	48,643	49,746	50,912
<b>Ending stocks</b>	305	298	310	319	323	324	323	324	325	326	328
(Dollars per ton)											
<b>Price</b>											
Decatur, 48% protein	297.02	267.16	253.98	252.61	250.38	257.67	263.89	262.55	264.03	264.70	261.18

# Biodiesel

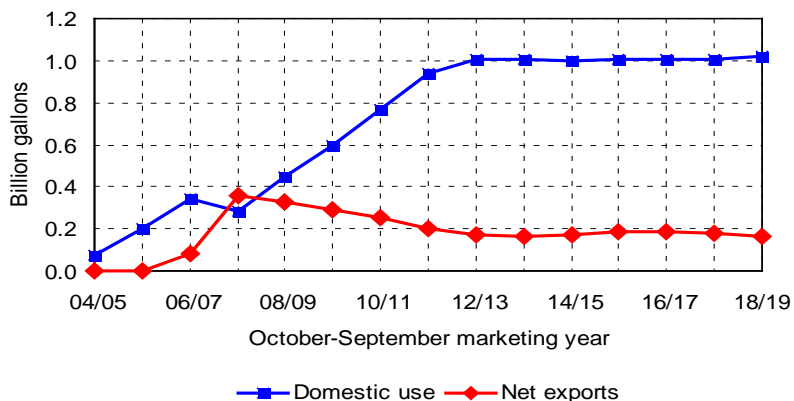
## Biodiesel production grows to meet mandate

- Biodiesel production continues to expand while capacity growth has slowed.
- Biodiesel feedstocks are increasingly diverse with greater shares coming from fats and oils other than soybean oil.
- The projections assume authority to waive the EISA biodiesel mandate is not utilized and that a 1 billion gallon mandate is carried forward after 2012.



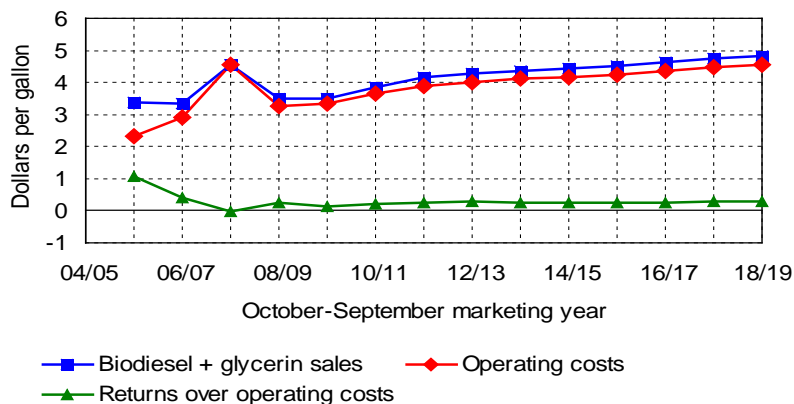
## Domestic use crowds out biodiesel exports

- As EISA mandates increase, rising domestic use crowds out exportable supplies of biodiesel.
- Domestic use after 2008/09 is largely driven by EISA mandates and flattens when the mandate stops growing.
- The projections assume the \$1 per gallon tax credit continues to be available on US-produced biodiesel that is blended in this country prior to export, and that the European Union does not impose additional tariffs on US biodiesel imports.



## Biodiesel returns over costs remain narrow

- Lower petroleum prices in 2008/09 have contributed to lower biodiesel prices. The decline in biodiesel prices is offset by lower feedstock prices for fats and oils.
- Excess existing production capacity keeps margins narrow even as biodiesel use grows with the mandate.
- Narrow margins discourage growth in biodiesel capacity.



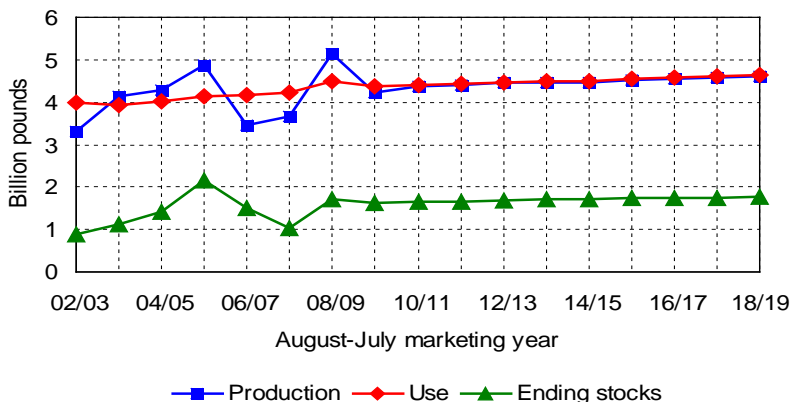
## Biodiesel sector

October-September year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>Biodiesel supply and use</b>											
	(Million gallons)										
Production	776	890	1,019	1,138	1,184	1,175	1,174	1,188	1,189	1,191	1,184
From soybean oil	415	474	564	649	676	658	653	665	664	665	657
From other fats and oils	362	416	455	489	509	517	521	523	525	527	527
Net exports	332	293	251	199	175	167	175	183	185	182	165
Domestic disappearance	445	597	768	939	1,009	1,008	999	1,005	1,004	1,009	1,019
<b>Fuel prices and tax credit</b>											
	(Dollars per gallon)										
Biodiesel, rack	3.46	3.45	3.80	4.11	4.22	4.33	4.38	4.46	4.58	4.71	4.80
#2 Diesel, refiner sales	1.85	1.75	2.30	2.63	2.78	2.81	2.72	2.66	2.67	2.67	2.71
#2 Diesel, retail	2.56	2.46	3.02	3.35	3.50	3.54	3.45	3.40	3.41	3.42	3.44
Biodiesel tax credit	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
<b>Costs and returns</b>											
Biodiesel value	3.46	3.45	3.80	4.11	4.22	4.33	4.38	4.46	4.58	4.71	4.80
Glycerin value	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Soyoil cost	-2.72	-2.80	-3.09	-3.34	-3.42	-3.54	-3.60	-3.66	-3.78	-3.88	-3.95
Other operating costs	-0.55	-0.55	-0.56	-0.56	-0.56	-0.57	-0.58	-0.58	-0.59	-0.59	-0.60
Net operating return	0.24	0.15	0.21	0.26	0.28	0.26	0.26	0.26	0.27	0.29	0.30

# Peanuts

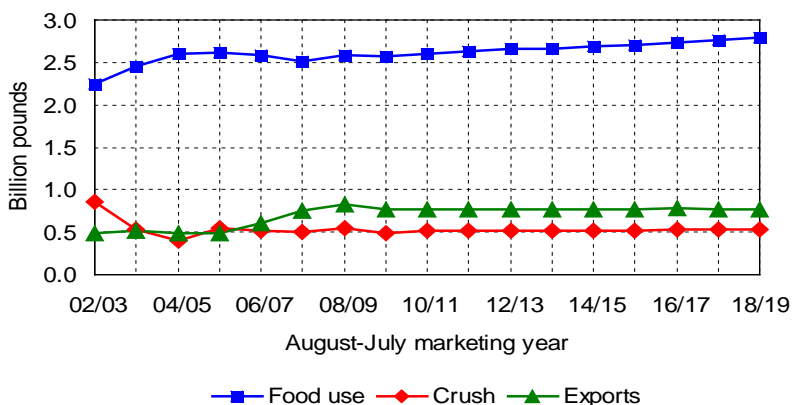
Peanut production, stocks increase in 2008/09

- High contract prices led to a sharp increase in peanut area planted in 2008.
- Combined with record yields, the result is a large increase in 2008/09 peanut production and carryover stocks.
- The expectation of lower prices results in a drop in projected 2009 peanut area which leaves supply in approximate balance with demand.



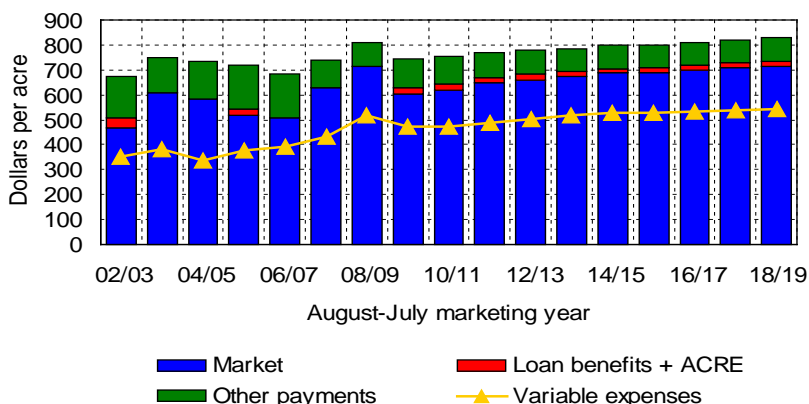
Peanut use by category remains fairly stable

- Projected domestic food use of peanuts grows more slowly than population.
- US peanut exports have increased since 2004/05 and are projected to remain near current levels.
- The baseline was prepared before Peanut Corporation of America products were recalled in late January 2009.



Peanut receipts rise in 2008/09 but fall in 2009/10

- Higher peanut prices and yields increase per-acre market receipts in 2008/09.
- Unlike most other crops, peanut prices are not high enough to eliminate countercyclical payments.
- Variable production expenses increased sharply in 2008/09.
- Lower market prices and a return to normal yields reduce 2009/10 market receipts. Expenses also fall in 2009/10.



## Peanut supply and use

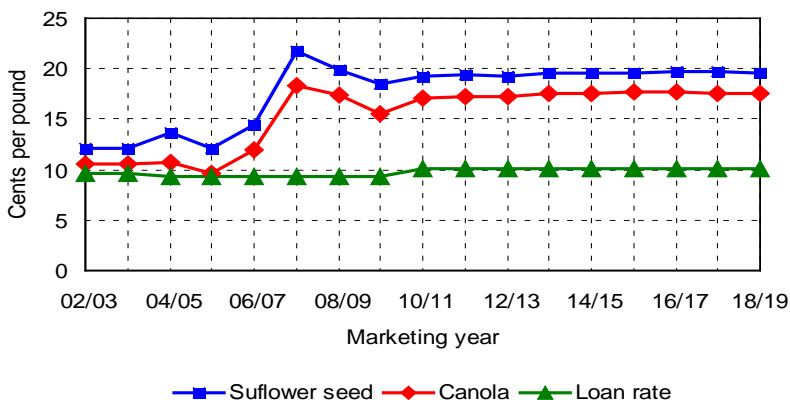
August-July year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>Area</b>	(Million acres)										
Planted area	1.53	1.40	1.43	1.43	1.43	1.42	1.41	1.42	1.41	1.41	1.41
Harvested area	1.51	1.36	1.40	1.40	1.40	1.39	1.38	1.38	1.38	1.38	1.38
<b>Yield</b>	(Pounds per harvested acre)										
	3,416	3,104	3,132	3,158	3,185	3,212	3,240	3,265	3,296	3,319	3,350
<b>Supply</b>	(Million pounds)										
Beginning stocks	6,219	5,988	6,055	6,096	6,152	6,185	6,215	6,275	6,327	6,356	6,409
Production	1,031	1,713	1,628	1,650	1,664	1,685	1,703	1,711	1,729	1,746	1,752
Imports	5,148	4,235	4,388	4,406	4,448	4,460	4,473	4,523	4,557	4,571	4,617
	40	40	40	40	40	40	40	40	40	40	40
<b>Domestic use</b>	3,677	3,592	3,637	3,671	3,700	3,716	3,735	3,771	3,804	3,830	3,864
Food	2,588	2,576	2,601	2,633	2,655	2,667	2,683	2,709	2,736	2,760	2,787
Crush	546	492	511	510	514	514	514	522	528	528	534
Seed, feed, & residual	544	524	524	528	532	535	538	539	540	542	544
<b>Exports</b>	829	769	769	761	767	767	769	774	777	774	776
<b>Total use</b>	4,506	4,361	4,405	4,432	4,467	4,483	4,504	4,546	4,581	4,604	4,640
<b>Ending stocks</b>	1,713	1,628	1,650	1,664	1,685	1,703	1,711	1,729	1,746	1,752	1,770
<b>Prices, program provisions</b>	(Dollars per pound)										
Farm price	0.209	0.197	0.200	0.208	0.210	0.212	0.214	0.214	0.214	0.216	0.215
Loan rate	0.178	0.178	0.178	0.178	0.178	0.178	0.178	0.178	0.178	0.178	0.178
Target price	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248	0.248
Direct payment rate	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018
	(Million acres)										
Base area	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51
	(Pounds per acre)										
Program yield	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992	2,992
	(Percent)										
ACRE participation rate	n.a.	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
<b>Returns and payments</b>	(Dollars)										
Gross market revenue/a.	713.21	603.40	620.25	649.68	660.38	672.37	686.60	690.08	697.38	706.66	712.34
Variable expenses/a.	517.30	474.78	470.67	489.18	503.46	518.63	527.84	526.25	531.17	538.03	543.15
Market net return/a.	195.90	128.62	149.58	160.50	156.92	153.74	158.77	163.84	166.21	168.63	169.19
Marketing loan benefits/a.*	0.00	25.07	24.35	20.64	20.23	18.05	17.95	18.47	19.58	22.43	20.06
ACRE payment/a.*	n.a.	1.20	0.87	0.75	0.95	1.07	1.13	1.30	1.54	1.60	1.60
CCP payment/base a.*	52.68	69.39	64.14	52.90	51.02	48.79	46.44	46.24	47.88	45.17	48.46
Direct payment/base a.*	45.78	43.97	43.97	43.97	44.86	44.86	44.86	44.86	44.86	44.86	44.86

\*Figures reported are averages across ACRE participants and nonparticipants. All table figures are averages across 500 outcomes.

# Other oilseeds

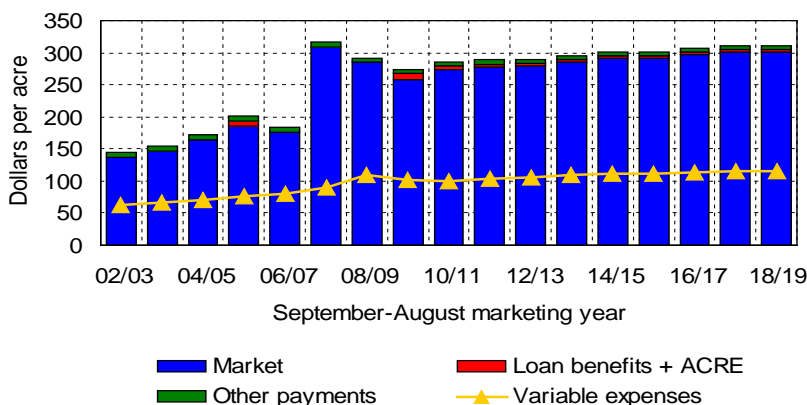
Other oilseed prices remain above pre-2007 levels

- Sunflower seed and canola prices increased sharply in 2007/08 in response to strong global demand for vegetable oil.
- Prices decline in 2008/09 and 2009/10, in part because of lower world vegetable oil prices.
- Growth in European biodiesel production, strong food demand in China and India, and a variety of other factors keep minor oilseed prices above pre-2007 levels over the baseline.



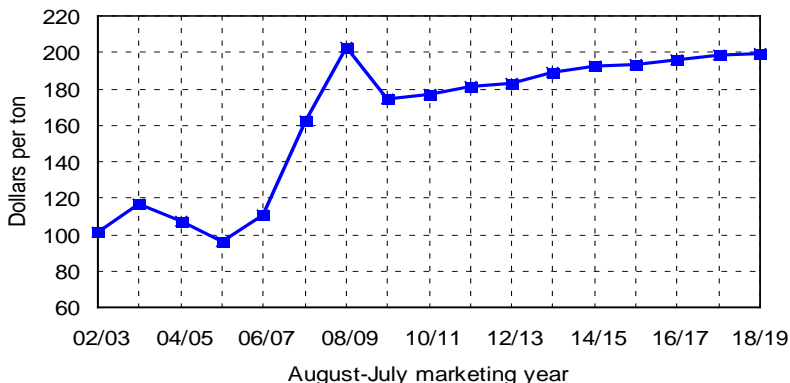
Sunflower seed returns reflect price changes

- Sunflower seed returns per acre increased sharply in 2007/08 because of higher prices and yields.
- Returns fall in 2008/09 and 2009/10 as prices retreat.
- ACRE payments could occur in 2009/10 if prices fall as much or more than projected, or if state yields fall below recent averages.



Cottonseed prices have also increased greatly

- Higher prices for all oilseeds and reduced cottonseed production contribute to a further increase in cottonseed prices in 2008/09.
- Higher cottonseed prices have squeezed cottonseed crushing margins in 2008/09 relative to a year ago.
- Weaker oilseed meal prices contribute to a drop in cottonseed prices in 2009/10, but prices remain above 2007/08 levels throughout the baseline.





## Sunflower seed supply and use

September-August year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>Area</b>	(Million acres)										
Planted area	2.52	2.37	2.43	2.46	2.48	2.47	2.46	2.46	2.44	2.44	2.44
Harvested area	2.40	2.19	2.25	2.27	2.28	2.28	2.27	2.27	2.25	2.25	2.26
<b>Yield</b>	(Pounds per acre)										
	1,429	1,410	1,427	1,441	1,455	1,467	1,485	1,498	1,515	1,529	1,543
<b>Supply and use</b>	(Million pounds)										
Production	3,423	3,091	3,212	3,281	3,333	3,355	3,378	3,405	3,422	3,452	3,489
Imports	161	161	161	161	161	161	161	161	161	161	161
Domestic use	2,959	2,864	2,917	2,985	3,062	3,105	3,139	3,192	3,245	3,309	3,382
Exports	423	455	451	430	419	402	395	372	336	299	261
Ending stocks	466	399	404	431	442	451	456	458	460	466	472
<b>Prices, returns and payments</b>	(Dollars)										
Farm price/lb.	0.199	0.184	0.193	0.193	0.193	0.195	0.196	0.196	0.198	0.198	0.196
Gross market revenue/a.	284.61	258.22	273.61	277.40	278.72	284.62	290.77	291.66	297.43	300.17	301.04
Variable expenses/a.	109.78	100.81	99.22	102.75	105.65	109.02	111.35	111.52	112.89	114.57	115.96
Market net return/a.	174.84	157.41	174.40	174.65	173.07	175.60	179.42	180.14	184.54	185.59	185.08
Marketing loan benefits/a.*	0.00	0.03	0.03	0.02	0.01	0.01	0.02	0.01	0.02	0.02	0.01
ACRE payment/a.*	n.a.	9.23	6.36	4.86	5.11	4.55	4.26	3.99	3.75	4.38	4.48
CCP payment/base a.*	0.00	0.00	0.03	0.02	0.01	0.01	0.02	0.01	0.02	0.02	0.01
Direct payment/base a.*	7.38	6.37	6.15	6.15	6.27	6.27	6.27	6.27	6.27	6.27	6.27

\*Figures reported are averages across ACRE participants and nonparticipants. All table figures are averages across 500 outcomes.

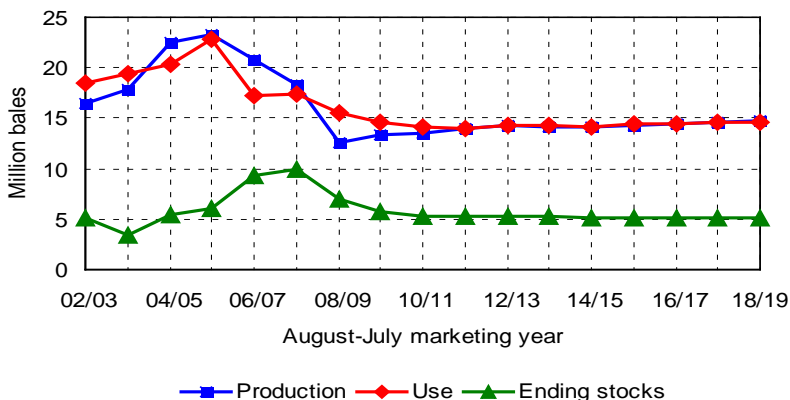
## Other oilseeds

Marketing Year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>Production</b>	(Thousand tons, Aug.-Jul. year)										
Cottonseed	4,429	4,812	4,889	5,045	5,141	5,062	5,051	5,138	5,170	5,193	5,243
	(Million pounds, Jul.-Jun. year)										
Canola	1,445	1,417	1,571	1,694	1,729	1,767	1,813	1,862	1,917	1,966	2,009
<b>Prices</b>	(Dollars per ton, Aug.-Jul. year)										
Cottonseed	202.75	174.16	176.90	181.37	182.98	188.75	192.21	193.46	196.26	198.57	199.21
	(Cents per pound, Jul.-Jun. year)										
Canola	17.34	15.51	17.02	17.23	17.24	17.54	17.59	17.65	17.74	17.61	17.57

# Upland cotton

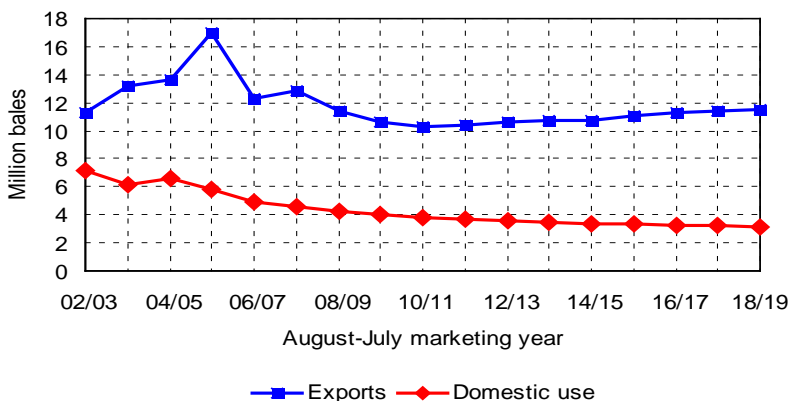
## Cotton production and stocks decline in 2008/09

- Upland cotton production continued its decline in 2008 under competition for area from other crops.
- A further decline in cotton area planted is expected in 2009, but normal weather could result in higher yields and less abandoned area than in 2008.
- Lower production allows stocks to return to more normal levels after reaching nearly 10 million bales in 2007/08.



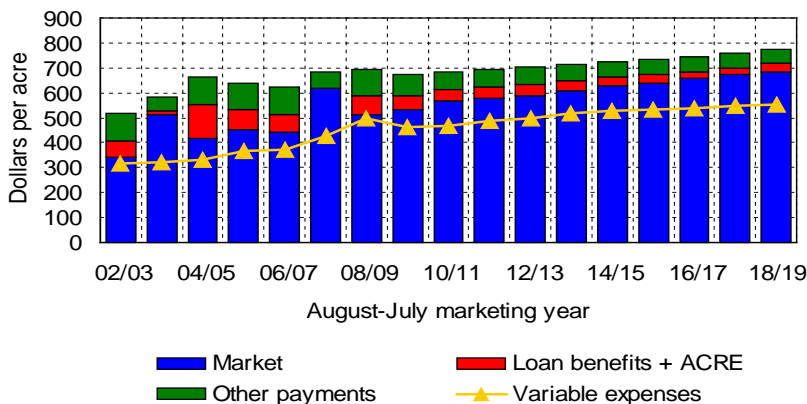
## Weak economy reduces cotton demand

- The current economic climate has cut world cotton demand, pushing down prices and trade.
- When world income growth resumes, world cotton use should expand.
- Domestic mill use continues its decline.
- Recent data suggests the 2008/09 demand decline could be even more severe than indicated here.



## Payments offset changes in market receipts

- Lower cotton prices and yields decrease market receipts per acre in 2008/09.
- Increased marketing loan benefits and countercyclical payments offset the decline in market receipts.
- Variable production expenses grew sharply in 2008/09. Projected expenses decline in 2009/10, but net returns over variable expenses remain narrow.



## Upland cotton supply and use

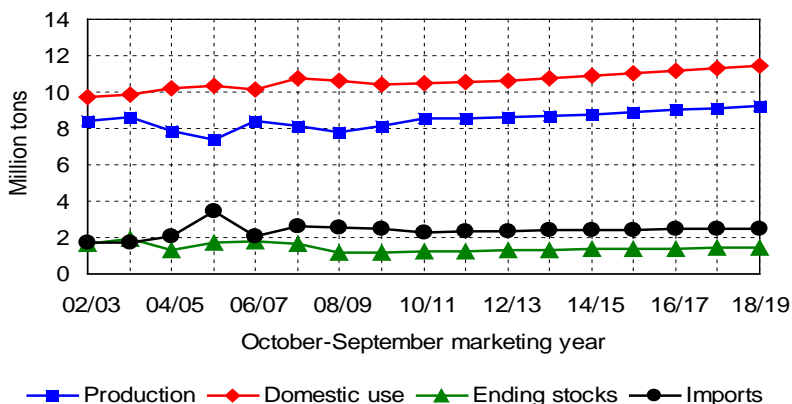
August-July year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>Area</b>	(Million acres)										
Planted area	9.30	8.67	8.76	9.00	9.10	8.92	8.82	8.91	8.89	8.83	8.82
Harvested area	7.56	7.77	7.84	8.05	8.13	7.94	7.87	7.92	7.90	7.85	7.84
<b>Yield</b>	(Pounds per harvested acre)										
	799	823	829	835	843	850	858	868	877	889	899
<b>Supply</b>	(Million bales)										
Beginning stocks	22.50	20.30	19.32	19.28	19.55	19.45	19.30	19.50	19.61	19.66	19.82
Production	9.91	6.95	5.73	5.25	5.23	5.34	5.20	5.14	5.14	5.10	5.10
Imports	12.59	13.35	13.58	14.03	14.31	14.11	14.09	14.36	14.46	14.55	14.72
	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
<b>Domestic mill use</b>	4.19	4.01	3.82	3.69	3.58	3.48	3.39	3.32	3.26	3.20	3.16
<b>Exports</b>	11.36	10.57	10.25	10.35	10.63	10.77	10.78	11.05	11.25	11.36	11.51
<b>Total use</b>	15.55	14.57	14.07	14.05	14.21	14.25	14.16	14.37	14.51	14.56	14.67
<b>Ending stocks</b>	6.95	5.73	5.25	5.23	5.34	5.20	5.14	5.14	5.10	5.10	5.15
CCC inventory	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other stocks	6.95	5.73	5.25	5.23	5.34	5.20	5.14	5.14	5.10	5.10	5.15
<b>Prices, program provisions</b>	(Cents per pound)										
Farm price	49.1	51.9	55.1	55.6	56.1	57.7	58.9	59.5	60.4	61.2	61.7
Adjusted world price	43.8	49.4	52.8	52.6	53.3	55.3	56.8	57.8	59.1	60.4	61.0
Loan rate	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0
Target price	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3	71.3
Direct payment rate	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
<b>Base area</b>	(Million acres)										
	18.39	18.40	18.41	18.42	18.43	18.43	18.43	18.43	18.43	18.43	18.43
<b>Direct payment yield</b>	(Pounds per acre)										
	599	599	599	599	599	599	599	599	599	599	599
<b>CCP yield</b>	(Percent)										
	634	634	634	634	634	634	634	634	634	634	634
<b>ACRE participation rate</b>	(Percent)										
	n.a.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
<b>Returns and payments</b>	(Dollars)										
Gross market revenue/a.	511.58	532.21	565.77	576.32	586.95	609.15	627.83	639.88	657.48	674.06	685.63
Variable expenses/a.	495.49	464.16	466.74	485.27	499.85	516.75	528.80	531.10	538.62	547.62	555.50
Market net return/a.	16.09	68.05	99.02	91.05	87.10	92.40	99.03	108.78	118.85	126.44	130.13
Marketing loan benefits/a.*	78.78	57.42	46.31	46.36	46.53	37.42	35.72	33.94	26.26	26.28	31.31
ACRE payment/a.*	n.a.	0.91	0.41	0.42	0.53	0.44	0.45	0.45	0.51	0.47	0.53
CCP payment/base a.*	67.79	48.97	38.63	36.62	34.54	31.18	27.60	27.22	25.09	23.23	21.83
Direct payment/base a.*	33.96	32.95	32.95	32.95	33.62	33.62	33.62	33.62	33.62	33.62	33.62

\*Figures reported are averages across ACRE participants and nonparticipants. All table figures are averages across 500 outcomes.

# Sugar

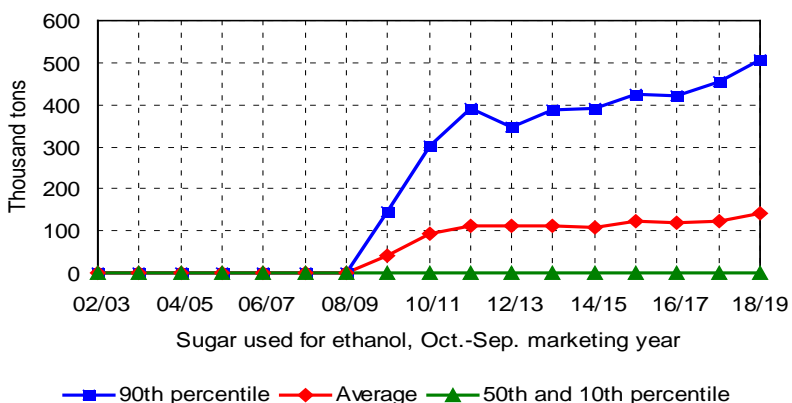
## Sugar production rebounds in 2009/10

- Reduced production of beet sugar results in a sharp drawdown of sugar stocks in 2008/09.
- Sugar beet area increases in 2009, as beet returns increase relative to competing crops.
- The baseline does not assume the proposed reduction in Florida cane production for Everglades restoration.
- Sugar imports are difficult to predict, in large part because of uncertainty about trade with Mexico.



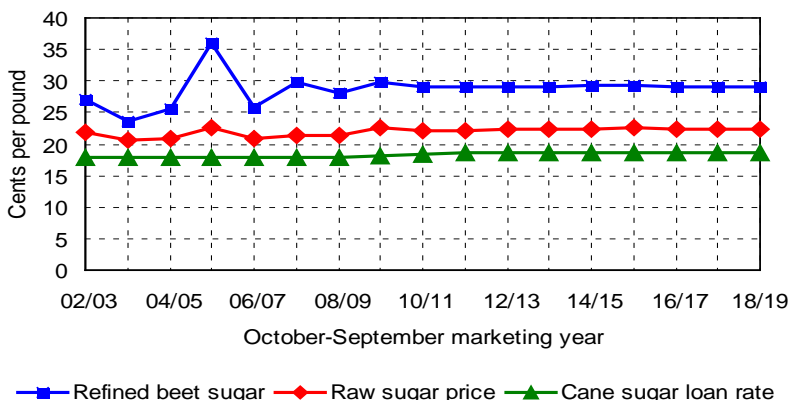
## Sugar for ethanol program triggers infrequently

- The 2008 farm bill creates a program to divert sugar into ethanol production if the alternative is accumulation of government stocks.
- In any given year, the most likely outcome is that no sugar will be used for ethanol production.
- However, when sugar supplies are unusually large or sugar demand is unusually weak, the program may operate.



## Average sugar prices exceed loan rate

- Projected average sugar prices consistently exceed the loan rate.
- If the ethanol program works as intended, no CCC sugar stocks should accumulate.
- Without the ethanol program, prices would occasionally drop low enough to result in government stock accumulation.



## Sugar supply and use

October-September year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>Area</b>	(Million acres)										
Sugar cane harvested	0.824	0.822	0.848	0.846	0.836	0.830	0.825	0.822	0.821	0.819	0.817
Sugar beet planted	1.091	1.212	1.243	1.220	1.215	1.212	1.206	1.207	1.205	1.205	1.207
Sugar beet harvested	1.005	1.157	1.186	1.164	1.160	1.157	1.151	1.152	1.150	1.150	1.152
<b>Yield</b>	(Tons per acre)										
Cane sugar	4.34	4.21	4.27	4.31	4.34	4.38	4.42	4.48	4.52	4.56	4.60
Beet sugar	4.21	4.05	4.13	4.21	4.29	4.37	4.45	4.53	4.62	4.70	4.78
<b>Supply</b>	(Thousand tons)										
Beginning stocks	11,991	11,794	11,957	12,095	12,217	12,374	12,517	12,693	12,850	13,020	13,210
Production	1,656	1,189	1,144	1,238	1,266	1,297	1,328	1,347	1,375	1,407	1,435
Cane sugar	7,800	8,141	8,524	8,543	8,600	8,693	8,771	8,901	9,020	9,137	9,272
Beet sugar	3,575	3,456	3,621	3,641	3,628	3,638	3,649	3,679	3,711	3,733	3,760
Imports	4,225	4,685	4,903	4,902	4,972	5,055	5,122	5,222	5,309	5,405	5,512
	2,535	2,465	2,290	2,315	2,351	2,384	2,418	2,445	2,455	2,476	2,504
<b>Total use</b>	10,803	10,651	10,720	10,830	10,920	11,046	11,169	11,319	11,443	11,586	11,747
Domestic deliveries	10,630	10,442	10,459	10,548	10,640	10,765	10,892	11,029	11,154	11,295	11,436
Exports	173	169	169	169	169	168	168	168	169	169	169
Ethanol program	0	40	92	113	111	113	110	122	121	122	142
Residual	0	0	0	0	0	0	0	0	0	0	0
<b>Ending stocks</b>	1,189	1,144	1,238	1,266	1,297	1,328	1,347	1,375	1,407	1,435	1,463
CCC inventory	0	0	0	0	0	0	0	0	0	0	0
Other stocks	1,189	1,144	1,238	1,266	1,297	1,328	1,347	1,375	1,407	1,435	1,463
<b>Prices</b>	(Cents per pound)										
N.Y. spot raw sugar	21.26	22.66	22.21	22.21	22.30	22.32	22.45	22.49	22.42	22.41	22.40
Refined beet sugar	27.96	29.85	29.17	29.11	29.17	29.13	29.26	29.26	29.10	29.03	28.95
Cane loan rate	18.00	18.25	18.50	18.75	18.75	18.75	18.75	18.75	18.75	18.75	18.75
Beet loan rate	22.90	23.45	23.77	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09

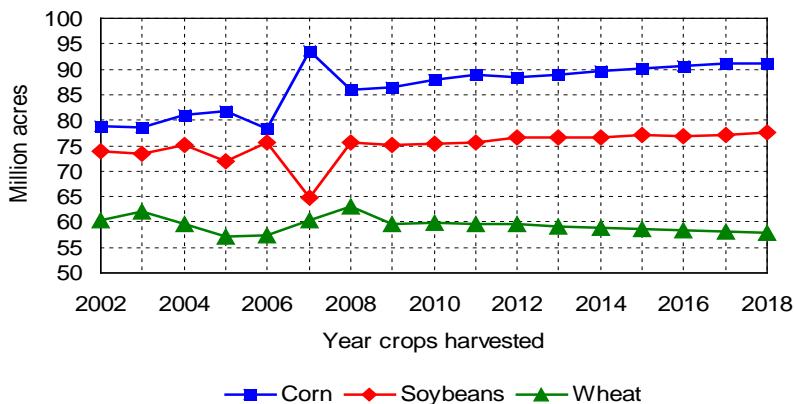
# Land use

Little change expected in 2009 corn, soybean area

▪ After large swings in 2007 and 2008, little change in corn and soybean area is projected for 2009.

▪ Actual plantings will depend on market developments this spring, as the weather and relative corn, soybean, and fertilizer prices will affect production choices.

▪ Wheat area falls sharply in 2009 in response to lower wheat prices and weather conditions that inhibited winter wheat seedings.

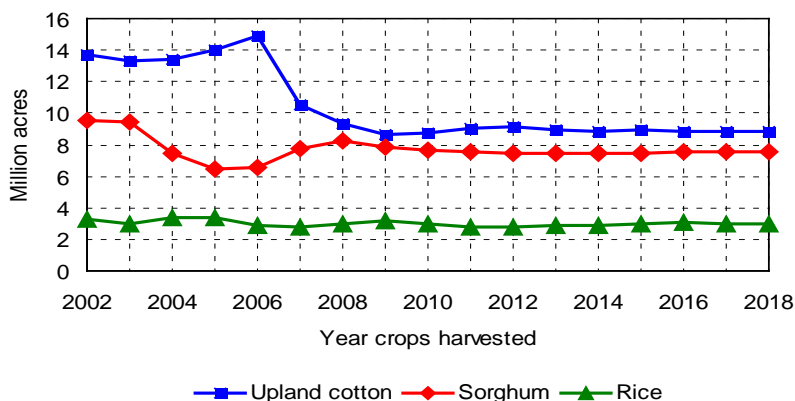


Cotton acreage declines again in 2009

▪ Weak cotton returns relative to other crops led to sharp reductions in area in 2007 and 2008. A further smaller decline in cotton area is expected in 2009.

▪ Sorghum area recovered in 2007 and 2008 because of strong returns, but weaker sorghum prices result in lower projected 2009 sorghum area.

▪ Rice area increased in 2008 and a further increase is projected for 2009. Recent declines in rice prices make rice area especially uncertain.

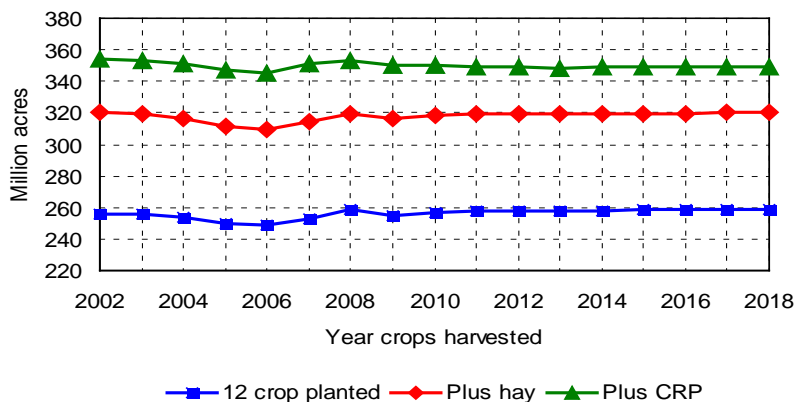


12-crop planted area declines in 2009

▪ Because of higher returns to many crops, the total area planted to 12 major crops increased by 10 million acres between 2006 and 2008.

▪ Total 12-crop area planted falls by 4 million acres in 2009 in response to weaker returns.

▪ Including changes in hay and CRP area, the reduction in total land use is slightly smaller. Correcting for a drop in double-crop soybean area, total land use declines by less than 2 million acres.



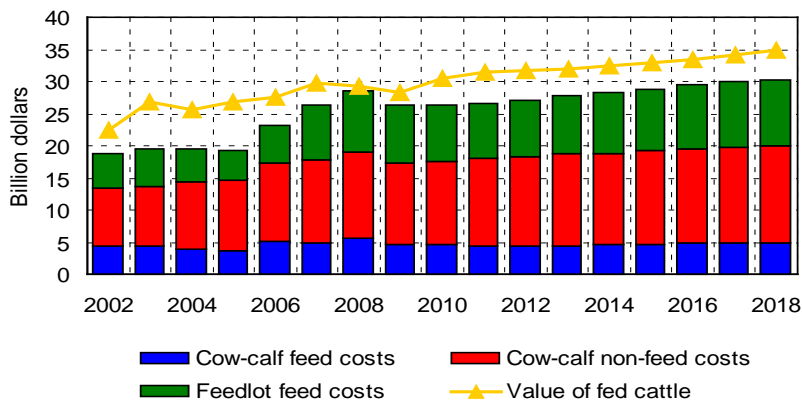
## Land use for major crops and the conservation reserve

Marketing year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>Planted area</b>	(Million acres)										
Corn	85.98	86.34	88.01	88.91	88.38	88.98	89.73	90.23	90.74	91.07	91.08
Soybeans	75.72	75.08	75.43	75.60	76.63	76.52	76.68	77.04	76.82	76.99	77.50
Wheat	63.15	59.70	59.82	59.70	59.62	59.21	58.84	58.53	58.40	58.20	57.94
Upland cotton	9.30	8.67	8.76	9.00	9.10	8.92	8.82	8.91	8.89	8.83	8.82
Sorghum	8.28	7.82	7.67	7.54	7.45	7.46	7.47	7.49	7.51	7.53	7.54
Barley	4.23	4.37	4.39	4.42	4.35	4.29	4.26	4.21	4.16	4.11	4.04
Oats	3.22	3.55	3.54	3.48	3.40	3.36	3.31	3.27	3.23	3.19	3.14
Rice	3.00	3.15	3.00	2.74	2.78	2.85	2.90	3.00	3.04	2.98	2.94
Sunflowers	2.52	2.37	2.43	2.46	2.48	2.47	2.46	2.46	2.44	2.44	2.44
Peanuts	1.53	1.40	1.43	1.43	1.43	1.42	1.41	1.42	1.41	1.41	1.41
Sugar beets	1.09	1.21	1.24	1.22	1.22	1.21	1.21	1.21	1.20	1.20	1.21
Sugar cane (harvested)	0.82	0.82	0.85	0.85	0.84	0.83	0.82	0.82	0.82	0.82	0.82
<b>12 crop planted area</b>	<b>258.84</b>	<b>254.47</b>	<b>256.59</b>	<b>257.35</b>	<b>257.68</b>	<b>257.53</b>	<b>257.91</b>	<b>258.57</b>	<b>258.68</b>	<b>258.77</b>	<b>258.89</b>
<b>Hay harvested area</b>	<b>60.06</b>	<b>61.74</b>	<b>61.89</b>	<b>61.72</b>	<b>61.52</b>	<b>61.41</b>	<b>61.29</b>	<b>61.20</b>	<b>61.17</b>	<b>61.16</b>	<b>61.16</b>
<b>12 crops + hay</b>	<b>318.90</b>	<b>316.21</b>	<b>318.48</b>	<b>319.07</b>	<b>319.20</b>	<b>318.95</b>	<b>319.20</b>	<b>319.77</b>	<b>319.85</b>	<b>319.93</b>	<b>320.05</b>
<b>Conservation reserve</b>	<b>34.66</b>	<b>33.71</b>	<b>31.83</b>	<b>30.20</b>	<b>29.64</b>	<b>29.58</b>	<b>29.54</b>	<b>29.51</b>	<b>29.46</b>	<b>29.39</b>	<b>29.30</b>
<b>12 crops + hay + CRP</b>	<b>353.56</b>	<b>349.92</b>	<b>350.31</b>	<b>349.27</b>	<b>348.84</b>	<b>348.53</b>	<b>348.74</b>	<b>349.27</b>	<b>349.31</b>	<b>349.32</b>	<b>349.36</b>
<b>Double-crop soybeans</b>	<b>7.18</b>	<b>5.19</b>	<b>6.00</b>	<b>6.02</b>	<b>6.04</b>	<b>6.02</b>	<b>6.03</b>	<b>6.04</b>	<b>6.03</b>	<b>6.04</b>	<b>6.06</b>
<b>12 crops + hay + CRP - double-crop soybeans</b>	<b>346.38</b>	<b>344.72</b>	<b>344.31</b>	<b>343.25</b>	<b>342.80</b>	<b>342.51</b>	<b>342.71</b>	<b>343.23</b>	<b>343.28</b>	<b>343.28</b>	<b>343.29</b>

# Beef

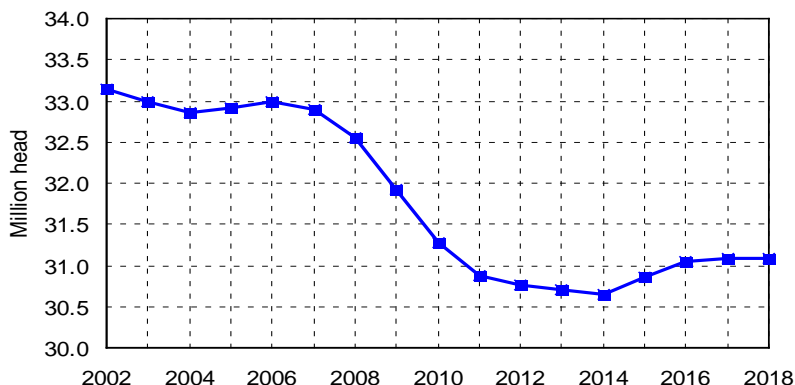
Receipts have not kept pace with cost increases

- The cattle industry is experiencing difficult financial times as rapidly rising input costs are not compensated by higher receipt levels.
- Feed and non-feed costs are expected to moderate this year, but they will stay above levels seen earlier this decade.
- Despite decreases in per capita beef supplies, short term economic weakness will constrain cattle prices below profitable levels until 2010.



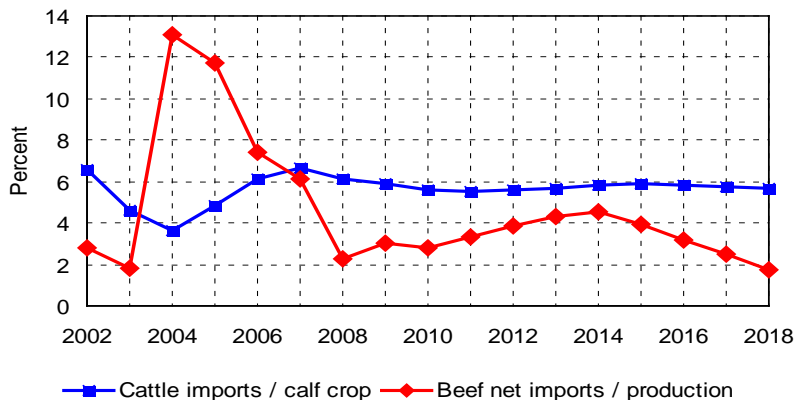
Beef cow inventory declining sharply

- Cow-calf producers have responded to economic losses by reducing inventory.
- Feedlots are also struggling financially. Fewer available calves will cause feeder animal prices to rise, but until the economic situation of feedlots improves, price bids for calves will be tempered.
- Beef cow numbers 13 percent below the 1996 peak should return the industry to historical profitability levels in a few years.



Recent trade trends not likely to continue

- A weakening US dollar and the recovery of market access lost from BSE-related disruptions nearly resulted in the US becoming a net exporter of beef in 2008.
- As beef prices rise in the next few years and the dollar shows little further depreciation, it will be difficult to improve upon the current beef net trade situation.
- Uncertainty over implementation of country of origin labeling (COOL) regulations is a factor in reducing cattle imports.





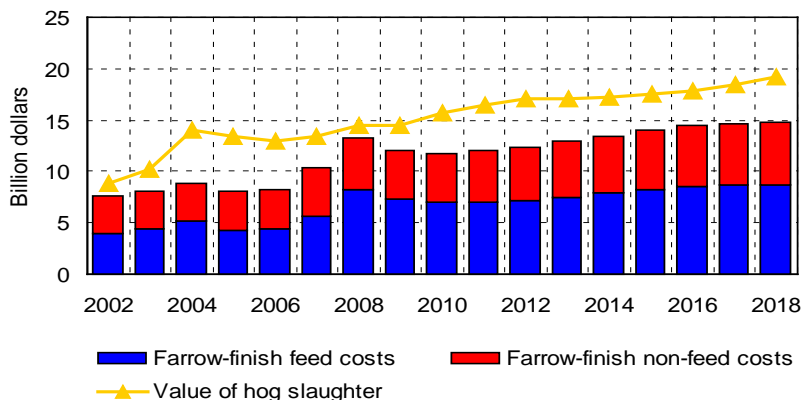
## Cattle sector

Calendar year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
(Million head)											
Beef cows (Jan. 1)	32.6	31.9	31.3	30.9	30.8	30.7	30.6	30.8	31.1	31.1	31.1
Dairy cows (Jan. 1)	9.2	9.2	9.1	9.0	8.9	8.9	8.9	8.9	8.8	8.9	8.9
Cattle and calves (Jan. 1)	96.7	96.0	95.3	94.0	93.3	93.1	93.0	93.3	93.6	93.6	93.6
Calf crop	37.2	36.6	36.0	35.8	35.7	35.8	35.9	36.2	36.4	36.6	36.6
Calf death loss	2.3	2.2	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.2
Calf slaughter	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Beef cow slaughter	3.7	3.4	3.1	2.8	2.8	2.8	2.6	2.6	2.8	2.8	2.9
Dairy cow slaughter	2.6	2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Bull slaughter	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Steer and heifer slaughter	27.6	27.3	27.7	27.4	27.0	26.8	26.9	27.2	27.4	27.7	27.9
Total slaughter	35.5	35.1	35.2	34.5	34.1	33.9	33.7	34.0	34.4	34.7	35.1
Cattle imports	2.3	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1
Cattle exports	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.4	0.4
Cattle death loss	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Residual	0.1	0.3	0.5	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8
Cattle and calves (Dec. 31)	96.0	95.3	94.0	93.3	93.1	93.0	93.3	93.6	93.6	93.6	93.1
Cattle on feed (Jan. 1)	14.3	13.3	13.8	13.8	13.5	13.5	13.5	13.6	13.8	14.0	14.1
(Million pounds)											
Supply											
Beginning stocks	630	605	570	556	578	571	578	583	592	608	631
Imports	2,482	2,795	3,023	3,149	3,282	3,453	3,570	3,517	3,429	3,370	3,284
Production	26,661	26,371	26,557	26,179	25,931	25,904	25,957	26,335	26,744	27,254	27,793
Total	29,773	29,772	30,150	29,884	29,791	29,928	30,105	30,434	30,765	31,232	31,709
(Million pounds)											
Disappearance											
Domestic use	27,293	27,203	27,310	27,027	26,944	27,006	27,126	27,357	27,573	27,908	28,250
Exports	1,875	1,998	2,285	2,279	2,276	2,344	2,396	2,486	2,584	2,693	2,806
Total	29,168	29,202	29,594	29,305	29,220	29,350	29,522	29,843	30,157	30,601	31,055
Ending stocks	605	570	556	578	571	578	583	592	608	631	654
(Pounds)											
Per capita consumption											
Carcass weight	89.4	88.2	87.7	86.0	84.9	84.3	83.8	83.7	83.6	83.8	84.0
Retail weight	62.6	61.8	61.4	60.2	59.4	59.0	58.7	58.6	58.5	58.7	58.8
Change	-4.0%	-1.3%	-0.6%	-2.0%	-1.3%	-0.7%	-0.5%	-0.1%	-0.2%	0.3%	0.3%
(Dollars per hundredweight)											
Prices											
1100 - 1300 #, Nebraska											
Direct steers	92.27	89.77	94.92	98.50	100.69	101.48	102.23	102.23	102.37	102.62	102.65
600 - 650 #, Oklahoma City											
Feeder steers	107.56	104.47	113.69	121.89	128.10	130.62	132.37	132.31	132.31	132.70	132.41
Utility cows, Sioux Falls	54.77	52.74	57.36	58.51	59.28	59.20	60.86	60.92	60.79	61.00	60.98
Boxed beef cutout	153.20	150.44	159.06	165.58	169.58	171.29	172.90	172.76	173.16	173.55	173.83
(Dollars per pound)											
Beef retail	4.32	4.24	4.46	4.74	4.95	5.10	5.18	5.18	5.18	5.19	5.20
Change	4.0%	-2.0%	5.2%	6.2%	4.5%	3.1%	1.5%	0.0%	0.1%	0.2%	0.1%
(Dollars per cow)											
Cow-calf returns											
Receipts	546.20	528.11	574.26	611.73	639.81	651.34	661.81	662.62	663.45	666.35	666.11
Feed expenses	169.17	148.87	145.61	144.78	143.82	145.46	147.32	151.07	154.07	157.04	160.24
Non-feed expenses	414.44	396.51	413.88	438.93	453.67	462.54	468.73	471.32	475.31	480.75	485.84
Net returns	-37.40	-17.27	14.78	28.01	42.31	43.34	45.77	40.22	34.07	28.56	20.03

# Pork

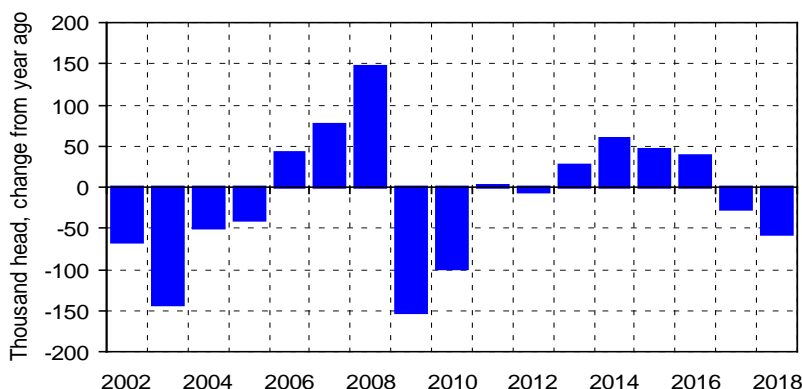
## Receipts have not kept pace with cost increases

- 2008 was the worst financial year for hog producers since 1998.
- The hog industry is particularly dependent on corn as a production input and it has been the major driver in increased production costs for the sector.
- Hog prices managed to increase slightly in 2008 despite the largest production increase since 1998, as pork export levels continued to set new records.



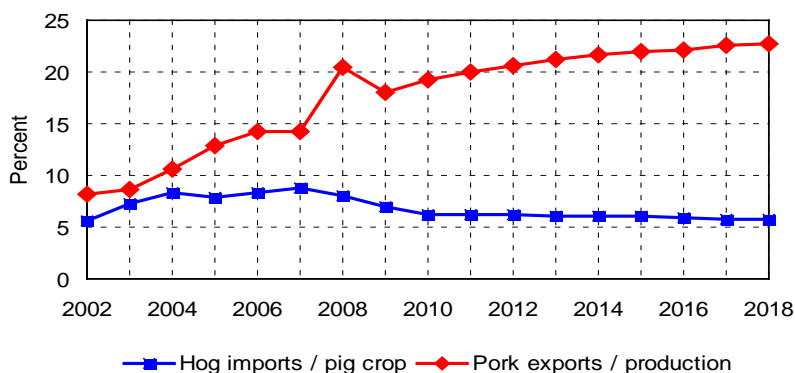
## Poor profitability reduces the breeding herd

- US producers began to reduce the sow herd early in 2008. Sow inventory cuts could total 250 thousand head by 2011.
- Reductions would need to be larger if not for the fact that the Canadian pork industry is also contracting after many years of growth.
- Higher hog prices will be generated by fewer sows, allowing profitability to return to the sector in 2010-2011.



## Hog imports and pork exports retract from record levels

- 2008 pork exports have more than tripled since 2001.
- Export levels began to fall during the fourth quarter of 2008. Though some decline is expected in 2009, the long term trend of increasing exports is expected to resume in 2010.
- The combination of a smaller Canadian hog herd and uncertainty over COOL implementation will cause fewer hogs to enter the US from Canada.



## Swine sector

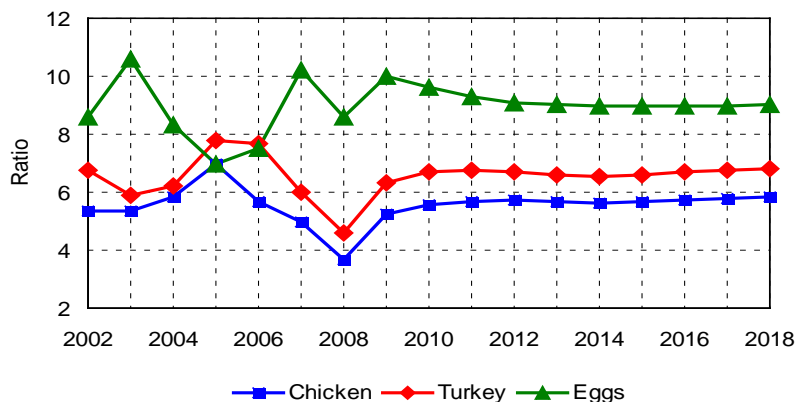
Calendar year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
(Million head)											
Breeding herd (Dec. 1*)	6.23	6.08	5.98	5.98	5.98	6.01	6.06	6.11	6.15	6.12	6.06
Gilts added	3.46	3.39	3.37	3.36	3.35	3.42	3.45	3.47	3.43	3.38	3.33
Sow slaughter	3.55	3.43	3.31	3.31	3.27	3.30	3.34	3.37	3.40	3.38	3.34
Sows farrowed	12.19	11.99	11.97	12.06	12.17	12.35	12.56	12.74	12.86	12.87	12.85
Pigs per litter (head)	9.41	9.44	9.48	9.53	9.57	9.63	9.69	9.74	9.80	9.85	9.90
Market hogs (Dec. 1*)	61.9	60.6	59.9	59.8	60.2	61.2	62.3	63.6	64.7	65.1	65.4
Pig crop	114.7	113.1	113.5	114.8	116.5	118.9	121.6	124.1	125.9	126.8	127.2
Barrow and gilt slaughter	112.5	109.4	108.4	109.2	110.3	112.4	114.9	117.4	119.5	120.2	120.7
Hog imports	9.2	7.8	7.1	7.1	7.2	7.3	7.5	7.5	7.4	7.3	7.3
Hog exports	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Death loss/residual	12.6	12.3	12.2	12.2	12.4	12.6	12.9	13.1	13.3	13.4	13.5
Market hogs (Nov.30)	60.6	59.9	59.8	60.2	61.2	62.3	63.6	64.7	65.1	65.4	65.6
(Million pounds)											
<b>Supply</b>											
Beginning stocks	536	640	632	625	633	643	664	686	706	725	733
Imports	813	893	921	982	1,014	979	926	907	923	955	991
Production	23,378	22,804	22,716	22,975	23,296	23,831	24,448	25,075	25,649	25,913	26,130
Total	24,727	24,337	24,270	24,582	24,944	25,453	26,038	26,668	27,278	27,593	27,854
<b>Disappearance</b>											
Domestic use	19,318	19,600	19,259	19,352	19,489	19,736	20,049	20,455	20,879	21,024	21,165
Exports	4,769	4,105	4,386	4,597	4,811	5,054	5,303	5,506	5,673	5,837	5,951
Total	24,087	23,705	23,645	23,949	24,300	24,790	25,352	25,962	26,552	26,861	27,116
Ending stocks	640	632	625	633	643	664	686	706	725	733	737
(Pounds)											
<b>Per capita consumption</b>											
Carcass weight	63.3	63.6	61.9	61.6	61.4	61.6	62.0	62.6	63.3	63.1	63.0
Retail weight	49.1	49.3	48.0	47.8	47.6	47.8	48.1	48.6	49.1	49.0	48.9
Change	-3.2%	0.5%	-2.7%	-0.5%	-0.3%	0.3%	0.6%	1.1%	1.1%	-0.3%	-0.3%
<b>Prices</b>											
Natl. base 51-52% lean equiv.											
Barrows & gilts	47.84	48.99	52.99	55.11	56.30	54.77	53.92	53.62	53.20	54.55	56.17
IA-S. Minn. #1-2, 300-400 #											
Sows	33.22	36.62	39.89	42.15	43.50	41.75	40.53	39.64	38.62	39.95	42.01
Pork cutout value	69.32	69.57	75.24	79.08	81.36	80.68	80.47	80.31	79.99	81.92	84.55
(Dollars per pound)											
Pork retail	2.94	2.96	3.12	3.32	3.44	3.43	3.41	3.38	3.37	3.43	3.55
Change	2.3%	0.9%	5.3%	6.4%	3.7%	-0.4%	-0.6%	-0.8%	-0.4%	1.9%	3.5%
(Dollars per hundredweight)											
<b>Farrow-finish returns</b>											
Receipts	49.07	50.78	54.88	57.16	58.50	57.01	56.19	55.91	55.50	56.98	58.79
Feed expenses	35.38	32.10	30.53	30.70	30.48	31.49	32.26	32.99	33.35	33.42	33.45
Non-feed expenses	21.67	20.86	21.23	21.90	22.27	22.58	22.77	22.84	22.88	22.99	23.13
Net returns	-7.97	-2.18	3.11	4.55	5.75	2.94	1.16	0.08	-0.73	0.57	2.21

\* Preceding year

# Poultry

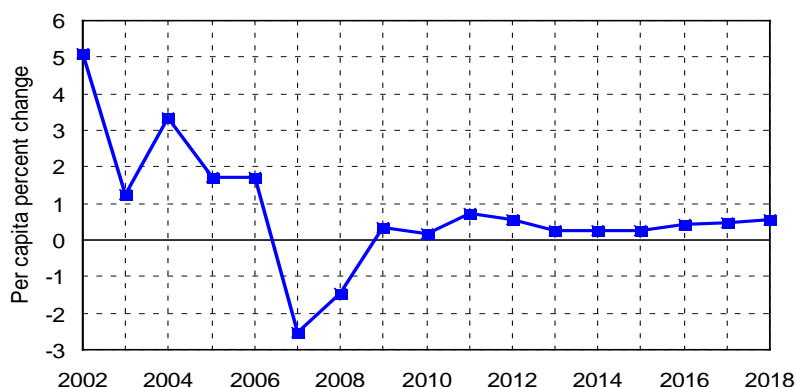
Poultry prices over feed costs declined in 2008

- Chicken and turkey producers experienced the third consecutive decrease in the output to feed price ratio in 2008.
- Egg producers began reducing supply in 2007, and were therefore better able to handle the recent feed cost increases.
- The difficult financial situation will result in less chicken and turkey production this year, and slower than average growth in 2010.



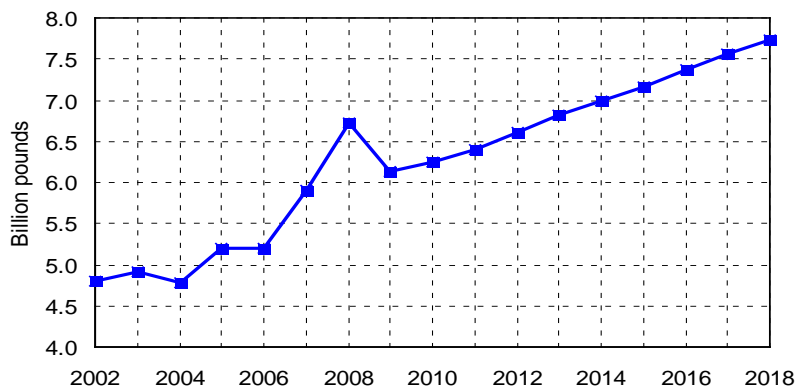
Chicken consumption growth will be weak

- Strong export growth in 2007 and 2008 contributed to back-to-back declines in per capita chicken consumption.
- The first reduction in chicken production in decades will keep supply relatively tight in the domestic market, even as exports struggle in 2009.
- Consumers tend to demand more poultry relative to beef and pork during difficult economic times, as it is a lower cost source of protein. This helped support chicken and turkey prices in 2008.



Chicken exports decline in 2009

- After posting strong gains in 2007 and 2008, chicken exports decline in 2009. Many factors contribute to the decline, including a weak global economy, a stronger US dollar, and a reduction in the US allocation of the Russian poultry import quota.
- Export growth should slowly resume as economies strengthen. Exports are extremely important to the US chicken industry, as international consumers prefer dark meat products less popular with US consumers.



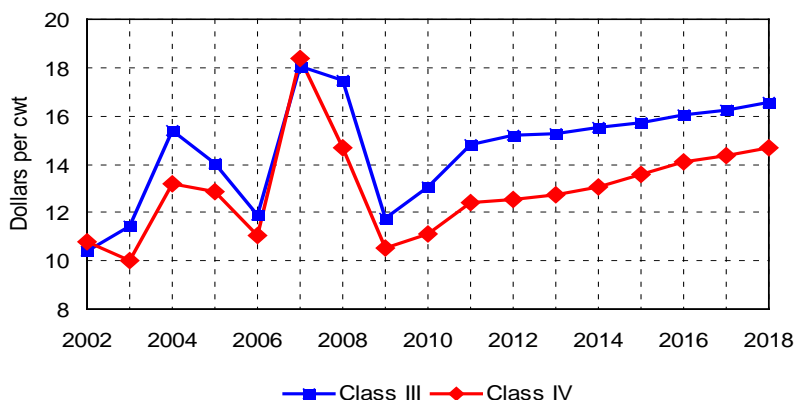
## Poultry supply and use

Calendar year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Broiler</b>											
	(Million pounds)										
Production	36,500	36,139	36,670	37,354	38,012	38,618	39,172	39,723	40,379	41,033	41,720
Domestic use	29,755	30,150	30,495	31,011	31,488	31,875	32,270	32,659	33,108	33,578	34,082
Exports	6,731	6,141	6,239	6,405	6,604	6,827	6,995	7,163	7,368	7,555	7,740
Ending stocks	810	738	759	785	797	807	812	814	821	828	836
<b>Turkey</b>											
Production	6,170	5,990	6,039	6,130	6,239	6,325	6,396	6,456	6,520	6,583	6,650
Domestic use	5,436	5,449	5,432	5,505	5,601	5,669	5,729	5,778	5,825	5,871	5,922
Exports	654	605	614	629	645	666	681	697	714	730	748
Ending stocks	350	298	305	314	322	328	331	329	329	330	332
<b>Eggs</b>											
	(Million dozens)										
Production	7,499	7,522	7,593	7,649	7,708	7,762	7,817	7,873	7,936	8,002	8,074
Domestic use	6,309	6,319	6,380	6,427	6,476	6,521	6,569	6,619	6,672	6,729	6,791
Hatching egg	993	997	1,001	1,008	1,014	1,020	1,024	1,028	1,034	1,040	1,047
Exports	208	221	226	230	233	237	240	244	248	251	255
Ending stocks	16	15	15	15	15	15	15	15	15	15	15
<b>Prices</b>											
	(Cents per pound)										
12 city wholesale broiler	79.67	80.87	81.07	82.35	83.13	84.18	85.65	87.07	88.12	89.13	89.84
Broiler retail	174.64	176.66	180.97	186.58	189.47	192.08	194.13	196.03	198.66	201.07	203.14
East. region wholesale turkey	87.54	86.55	86.83	88.01	88.11	88.84	90.32	92.00	93.29	94.37	95.25
Turkey retail	125.13	123.46	124.91	128.24	130.13	132.00	133.56	135.17	137.74	140.56	143.26
	(Cents per dozen)										
NY grade A large egg	127.76	117.54	112.02	109.95	109.96	111.81	114.04	116.12	117.17	117.95	118.78
Shell egg retail	198.65	185.17	180.89	179.93	180.92	184.16	187.37	189.97	192.39	194.56	196.69
<b>Per capita consumption</b>											
	(Pounds)										
Broiler	97.4	97.8	97.9	98.6	99.2	99.5	99.7	100.0	100.4	100.8	101.4
Turkey	17.8	17.7	17.4	17.5	17.6	17.7	17.7	17.7	17.7	17.6	17.6
	(Eggs)										
Eggs	247.9	245.9	245.9	245.3	244.8	244.2	243.6	243.1	242.8	242.5	242.4
<b>Feed-price ratios</b>											
	(Ratio)										
Broiler	3.7	5.2	5.6	5.7	5.7	5.7	5.6	5.7	5.7	5.8	5.8
Turkey	4.6	6.3	6.7	6.8	6.7	6.6	6.6	6.6	6.7	6.8	6.8
Eggs	8.6	10.0	9.6	9.3	9.1	9.0	9.0	9.0	9.0	9.0	9.0

# Dairy prices

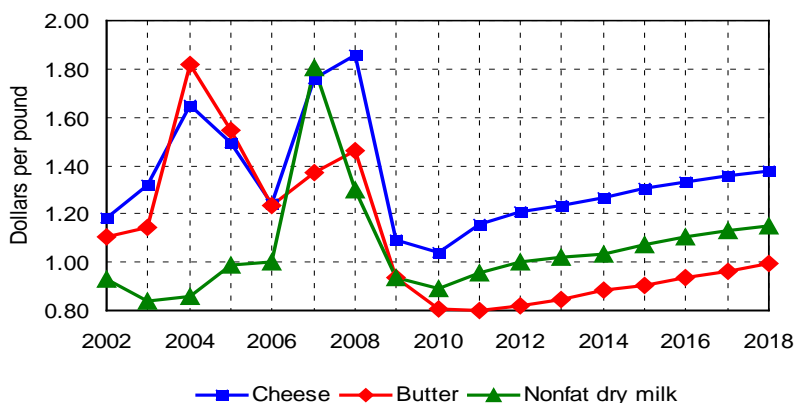
## Class III prices remain above class IV prices

- 2009 class III and class IV milk prices will fall to historically low levels due to faltering world demand for US dairy products.
- Strong cheese prices in 2008 led to the class III price exceeding the class IV price by over \$2.75 per cwt.
- The class III price is expected to exceed the class IV price throughout the baseline due to weaker world skim milk powder prices.



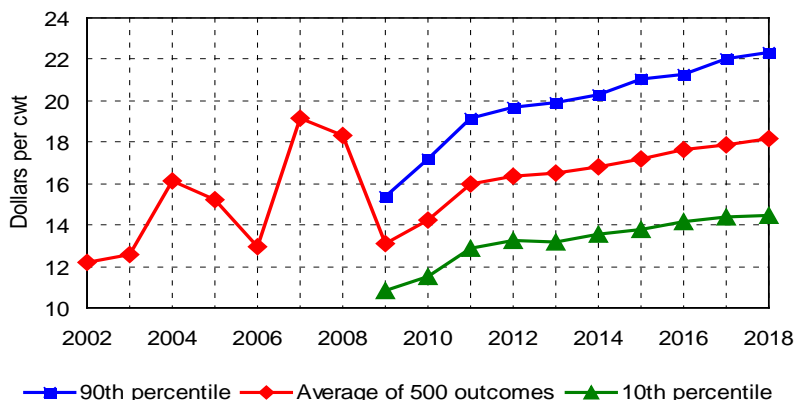
## World dairy prices fell in 2008

- Strong international demand during the past two years had moved world dairy prices to record levels.
- World dairy prices have fallen dramatically due to weak global demand for dairy products.
- 2009 wholesale dairy product prices fall near government support levels due to the falling world prices experienced in the past six to eight months.



## All milk price volatility will continue

- The 2009 all milk price is expected to average near \$13 per cwt. Some model outcomes suggest that the 2009 milk price could be at the lowest level seen this decade.
- The volatility in milk prices that has occurred over the past ten years is expected to continue. By 2018, the 10th and 90th percentiles indicate that 80 percent of model outcomes result in an all-milk price between \$14 and \$22 per cwt.



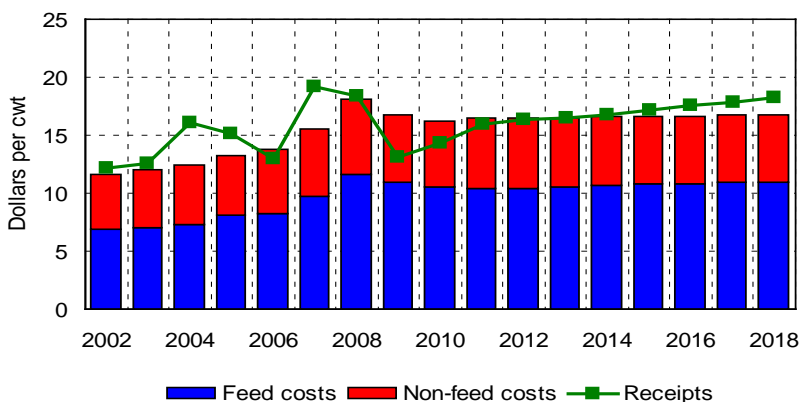
## Dairy sector

Calendar year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>US milk supply</b>											
Dairy cows (thou. head)	9,271	9,222	9,049	8,947	8,913	8,885	8,863	8,849	8,850	8,858	8,877
Milk yield (lbs. per cow)	20,462	20,537	20,952	21,353	21,668	21,969	22,272	22,581	22,877	23,147	23,430
Milk production (bil. lbs.)	189.7	189.4	189.6	191.1	193.1	195.2	197.4	199.8	202.5	205.0	208.0
<b>Min. FMMO class prices</b>											
	(Dollars per hundredweight)										
Class I mover	18.00	12.36	13.76	15.71	16.10	16.18	16.41	16.88	17.46	17.72	18.18
Class II	16.24	11.25	11.79	13.10	13.27	13.46	13.77	14.30	14.80	15.08	15.40
Class III	17.44	11.78	13.09	14.80	15.18	15.25	15.50	15.75	16.04	16.26	16.58
Class IV	14.65	10.55	11.09	12.40	12.57	12.76	13.07	13.60	14.10	14.38	14.70
<b>All milk price</b>	18.34	13.08	14.26	15.99	16.37	16.54	16.79	17.17	17.61	17.84	18.19
<b>MILC payment rate</b>	0.00	0.80	0.51	0.24	0.17	0.10	0.08	0.06	0.05	0.04	0.03
<b>MILC trigger</b>	16.94	17.73	17.57	17.44	17.44	16.95	16.97	16.97	16.99	16.98	17.01
<b>Wholesale prices</b>											
	(Dollars per pound)										
Butter, CME	1.46	1.29	1.28	1.33	1.39	1.40	1.44	1.50	1.50	1.56	1.59
Cheese, Amer., 40#, CME	1.86	1.32	1.45	1.61	1.64	1.65	1.67	1.69	1.72	1.73	1.76
Nonfat dry milk, AA	1.30	0.91	0.97	1.10	1.09	1.11	1.13	1.16	1.22	1.22	1.24
Evaporated milk	1.72	1.57	1.64	1.75	1.81	1.84	1.87	1.90	1.94	1.97	1.99
<b>Dairy product production</b>											
	(Million pounds)										
American cheese	4,047	3,942	3,926	3,979	4,031	4,076	4,115	4,155	4,195	4,232	4,281
Other cheese	5,791	5,855	5,979	6,091	6,241	6,345	6,456	6,562	6,681	6,799	6,930
Butter	1,640	1,561	1,579	1,604	1,608	1,618	1,625	1,636	1,649	1,653	1,660
Nonfat dry milk	1,826	1,487	1,463	1,551	1,565	1,613	1,662	1,735	1,821	1,896	1,972

# Milk production

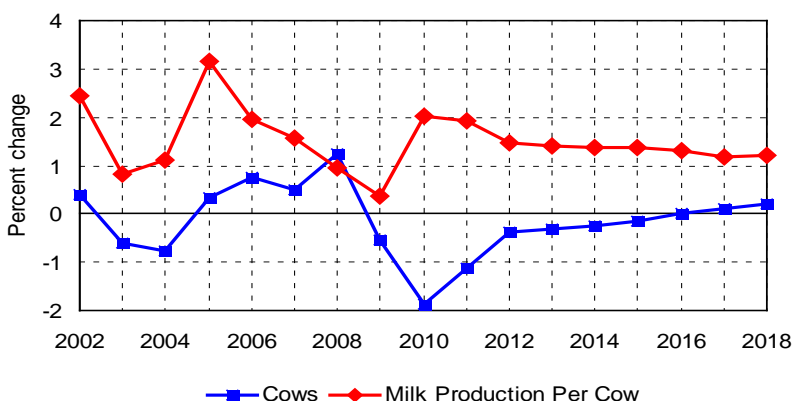
## Milk producers face historically low returns

- The cost of producing milk has increased rapidly due to high feed costs and energy-related inputs.
- Low milk prices coupled with historically high production costs result in the severe economic stress currently faced by dairy farmers.
- Milk production costs are expected to decline slightly in 2009 but remain at historically high levels.



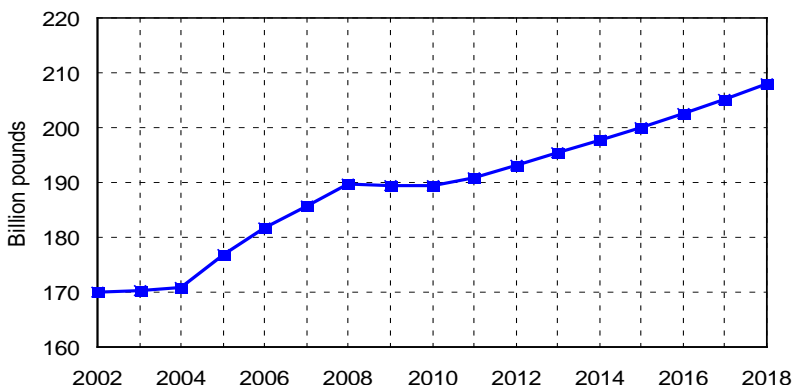
## Dairy cow herd contraction expected

- The dairy cow herd has increased every year since 2004. A large decrease in dairy cows is expected for 2009 and 2010.
- The annual growth in milk per cow is expected to remain between one and two percent over the baseline. New technology or adverse weather could move the industry outside of this range for any given year.



## Milk production flat in 2009 and 2010

- Milk production is expected to stall at 190 billion pounds through 2010 due to poor returns.
- After 2010, milk production is projected to grow by 1.2 percent annually.
- The trend of the regional movement of milk production is expected to continue, but at a slower rate than the past decade.





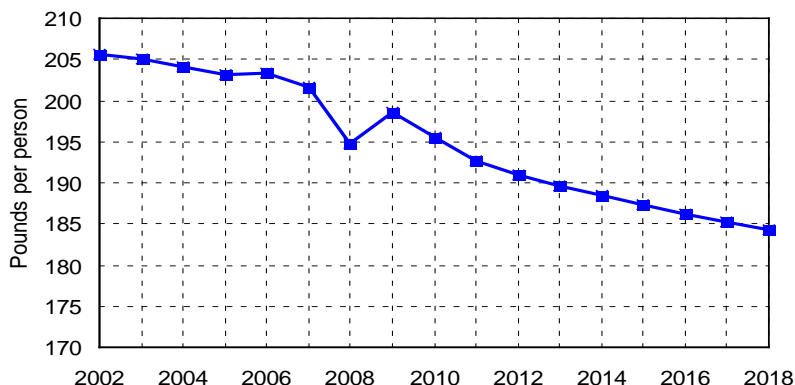
## State level dairy cows

Calendar year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	(Thousand head)										
Alabama	12	11	9	8	7	6	5	5	4	4	3
Alaska	1	1	1	1	1	1	1	1	1	1	1
Arizona	186	187	185	186	189	192	195	197	200	202	204
Arkansas	15	13	12	10	9	8	7	6	6	5	5
California	1,844	1,860	1,851	1,855	1,871	1,889	1,908	1,929	1,953	1,979	2,007
Colorado	128	133	137	140	144	148	152	155	158	161	164
Connecticut	19	19	18	18	17	17	17	16	16	16	15
Delaware	7	6	6	6	5	5	5	5	4	4	4
Florida	122	115	107	102	97	93	90	86	84	81	79
Georgia	76	73	70	67	66	64	63	62	61	61	61
Hawaii	2	2	1	1	2	2	1	1	1	1	1
Idaho	549	566	573	584	599	614	629	645	662	679	696
Illinois	102	100	97	96	94	93	92	92	91	91	90
Indiana	167	164	162	161	161	161	161	161	161	162	163
Iowa	216	214	210	207	205	203	202	200	199	198	197
Kansas	113	112	110	109	109	109	109	109	109	110	110
Kentucky	90	83	76	70	66	63	60	57	56	54	53
Louisiana	26	23	20	17	15	14	12	11	10	9	8
Maine	33	33	32	32	32	31	31	31	31	31	30
Maryland	56	51	47	45	43	41	40	39	38	38	37
Massachusetts	15	14	13	13	12	12	11	11	11	10	10
Michigan	348	350	346	345	346	346	346	346	346	347	347
Minnesota	464	458	446	437	432	427	422	417	413	409	406
Mississippi	20	18	17	15	14	13	12	11	10	9	9
Missouri	111	107	102	98	94	91	88	86	83	81	79
Montana	17	16	15	14	14	13	13	13	12	12	12
Nebraska	58	56	54	52	51	50	49	48	47	46	46
Nevada	27	27	26	26	26	25	25	25	25	25	25
New Hampshire	15	15	14	14	14	14	13	13	13	13	13
New Jersey	10	10	9	9	8	8	8	8	7	7	7
New Mexico	338	333	325	321	320	322	322	323	325	326	327
New York	626	621	608	599	592	586	580	575	570	566	562
North Carolina	47	43	39	35	32	29	26	23	21	18	15
North Dakota	27	25	22	20	18	16	14	12	11	9	8
Ohio	280	279	275	273	272	272	271	270	269	268	267
Oklahoma	64	60	56	53	50	48	46	45	43	43	42
Oregon	114	112	109	107	106	105	104	103	103	103	103
Pennsylvania	549	543	532	523	517	510	504	499	494	489	485
Rhode Island	1	1	1	1	1	1	1	1	1	1	1
South Carolina	18	17	17	16	16	16	15	15	15	14	14
South Dakota	90	92	91	89	88	88	87	87	87	86	86
Tennessee	59	55	51	47	44	41	38	36	34	31	29
Texas	379	389	388	390	395	399	402	406	409	412	416
Utah	85	83	80	77	76	74	73	72	71	70	69
Vermont	140	139	136	134	133	131	130	129	128	127	126
Virginia	98	94	89	86	84	82	80	79	77	77	76
Washington	245	244	239	237	235	234	233	232	231	230	230
West Virginia	12	11	10	9	8	8	7	7	7	7	7
Wisconsin	1,252	1,238	1,208	1,187	1,176	1,165	1,155	1,146	1,139	1,133	1,128
Wyoming	7	7	7	6	6	6	6	6	6	6	6
<b>United States</b>	<b>9,271</b>	<b>9,222</b>	<b>9,049</b>	<b>8,947</b>	<b>8,913</b>	<b>8,885</b>	<b>8,863</b>	<b>8,849</b>	<b>8,850</b>	<b>8,858</b>	<b>8,877</b>

# Dairy products

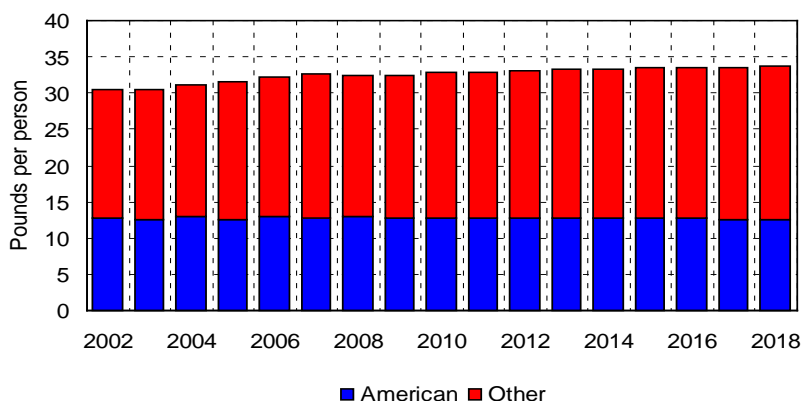
## Fluid milk consumption continues contraction

- Fluid milk consumption is expected to continue to decline over the baseline.
- As retail milk prices decline, consumption rises in 2009 relative to 2008.
- Fluid milk consumption changes are having smaller effects on producer milk prices, as a smaller percentage of milk production is used for fluid purposes.



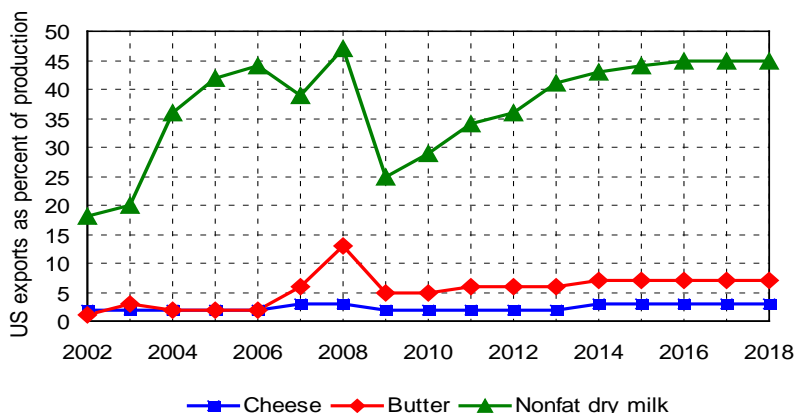
## Cheese consumption growth slows

- Per capita cheese consumption growth remains important to the overall dairy outlook.
- The growth in total per capita cheese consumption occurs in types other than American cheese. American cheese consumption declines by 0.3 pounds over the baseline.
- Total per capita cheese consumption reaches 34 pounds by 2018, an increase of 1.5 pounds from the 2008 level.



## Little butter and cheese production is exported

- US trade in butter and cheese is normally small relative to production. Thus, domestic production and consumption are similar except when stocks build or decline.
- With the high global butter prices in 2008, the US more than doubled the percentage of butter production exported.
- Significantly lower world skim milk powder prices in 2009 will result in the smallest percentage of nonfat dry milk production exported since 2004.



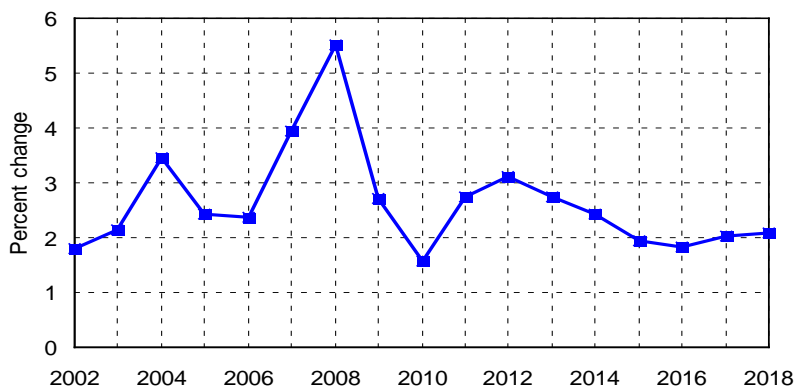
## Dairy product supply and use

Calendar year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Butter</b>											
	(Million pounds)										
Production	1,640	1,561	1,579	1,604	1,608	1,618	1,625	1,636	1,649	1,653	1,660
Imports	20	20	20	20	20	20	20	20	20	20	20
Domestic use	1,490	1,472	1,499	1,513	1,516	1,527	1,532	1,539	1,543	1,552	1,559
Total foreign use	205	66	84	109	114	119	121	118	124	123	124
Ending stocks	120	163	179	181	179	171	163	162	163	162	159
CCC net rem. inc DEIP	0	49	15	1	-2	-9	-8	-2	0	-2	-3
<b>American cheese</b>											
Production	4,047	3,942	3,926	3,979	4,031	4,076	4,115	4,155	4,195	4,232	4,281
Imports	49	49	49	49	49	49	49	49	49	49	49
Domestic use	3,968	3,864	3,924	3,962	3,984	4,025	4,065	4,105	4,143	4,182	4,227
Total foreign use	114	67	73	81	90	91	92	93	94	95	96
Ending stocks	523	583	561	546	553	560	568	574	581	585	593
CCC net rem. inc DEIP	0	32	-16	-12	0	-1	0	-1	1	-2	0
<b>Other cheese</b>											
Production	5,791	5,855	5,979	6,091	6,241	6,345	6,456	6,562	6,681	6,799	6,930
Imports	365	369	372	376	380	384	387	391	395	399	403
Domestic use	5,927	6,068	6,212	6,306	6,452	6,551	6,660	6,765	6,881	6,998	7,126
Total foreign use	211	137	138	156	161	168	175	181	187	192	198
Ending stocks	307	325	326	331	339	348	357	365	373	382	391
<b>Nonfat dry milk</b>											
Production	1,826	1,487	1,463	1,551	1,565	1,613	1,662	1,735	1,821	1,896	1,972
Imports	1	1	1	1	1	1	1	1	1	1	1
Domestic use	936	993	1,098	1,227	1,050	1,000	1,001	1,015	1,071	1,106	1,162
Total foreign use	850	338	349	434	512	627	686	728	747	786	822
Ending stocks	200	356	373	264	267	254	230	223	226	231	220
Government	80	252	273	160	161	145	117	106	104	103	87
Commercial	120	104	101	104	106	109	113	117	122	128	133
CCC net rem. inc DEIP	115	172	21	-112	1	-16	-28	-11	-1	-1	-16
<b>Evap. and condensed milk</b>											
Production	775	782	773	762	760	761	763	764	766	769	772
Imports	11	11	11	11	11	11	11	11	11	11	11
Domestic use	691	704	697	687	684	684	686	688	690	692	696
Total foreign use	88	88	88	88	88	88	88	88	88	88	88
Ending stocks	45	47	47	45	45	45	45	45	46	46	46
<b>Per capita consumption</b>											
	(Pounds)										
Butter	4.9	4.8	4.8	4.8	4.8	4.8	4.7	4.7	4.7	4.7	4.6
Nonfat dry milk	3.1	3.2	3.5	3.9	3.3	3.1	3.1	3.1	3.2	3.3	3.5
Total cheese	32.4	32.2	32.6	32.7	32.9	33.0	33.1	33.3	33.4	33.6	33.8
American	13.0	12.5	12.6	12.6	12.5	12.6	12.6	12.6	12.6	12.6	12.6
Other	19.4	19.7	19.9	20.1	20.3	20.4	20.6	20.7	20.9	21.0	21.2
Total fluid milk	194.7	198.5	195.7	192.6	191.0	189.5	188.2	187.0	185.7	184.7	183.7
Ice cream	23.4	23.6	23.6	23.4	23.4	23.3	23.2	23.1	23.1	23.0	23.0
<b>Retail prices</b>											
	(Dollars per unit)										
Cheese, cheddar (pound)	4.73	4.10	4.07	4.25	4.39	4.48	4.55	4.58	4.64	4.70	4.76
Milk, whole (gallon)	3.80	3.02	3.21	3.48	3.54	3.55	3.58	3.64	3.72	3.76	3.82
Ice cream (half gallon)	4.21	3.69	3.65	3.73	3.71	3.75	3.81	3.88	3.95	4.00	4.06

# Food prices and expenditures

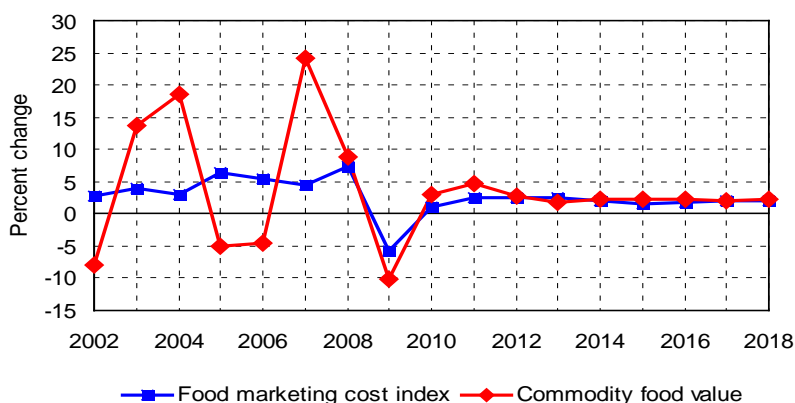
## Food inflation to moderate after steep increases

- After posting its largest increase since 1991 in 2007, the CPI for food registered an even larger increase in 2008.
- As food commodity prices and other costs associated with the marketing of food products weaken, food price inflation will return to more historical levels.
- CPIs for food away from home and fruits and vegetables are expected to show some of the largest percentage increases in the next decade.



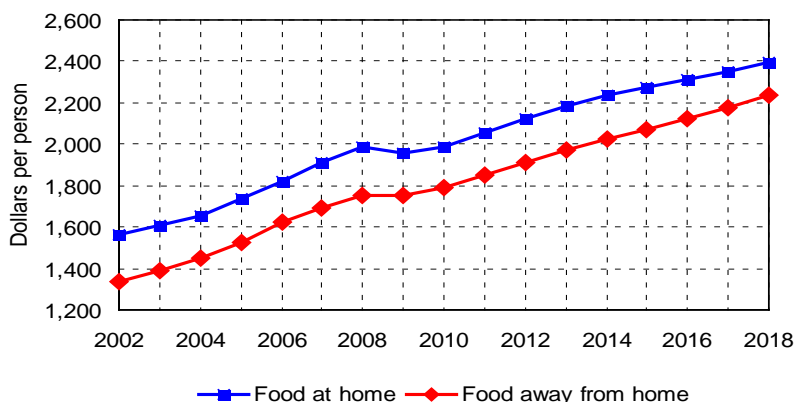
## Food price factors more volatile than food prices

- Approximately 20 percent of the cost of food is generated by the farm value of the food itself, with the remainder due to other costs in the food marketing chain.
- Retailers prefer to avoid volatile food pricing strategies, so although factors determining the consumer cost of food can quickly vary, price stickiness at the retail level moderates volatility.
- Labor, energy, and other costs comprising the food marketing cost index are projected by IHS Global Insight to grow more slowly in the next decade.



## Food spending to slow in 2009

- Food expenditures per person will drop in 2009 for the first time since 1992.
- A depressed economy, lower farm commodity and energy prices, and reduced consumption of meat products will all contribute to the decline.
- Food spending will increase slightly in real terms over the next decade, but will decline as a portion of income.



## Consumer price indices for food

Calendar year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	(1982-84=100)										
<b>Total food</b>	214.1	220.0	223.4	229.5	236.5	243.0	248.9	253.8	258.5	263.7	269.3
(Inflation rate)	5.5%	2.7%	1.6%	2.7%	3.1%	2.7%	2.5%	2.0%	1.8%	2.0%	2.1%
<b>Food at home</b>	214.1	218.1	219.8	225.7	232.7	239.0	244.7	249.1	253.1	257.8	262.7
Cereal and bakery	244.8	247.0	243.6	248.0	253.9	259.5	264.5	268.0	271.2	274.9	278.8
Meat	204.7	208.2	210.6	216.4	222.8	228.3	233.0	236.8	240.0	243.9	248.2
Dairy	210.4	210.1	211.6	219.9	228.3	235.1	241.6	247.2	252.5	258.3	264.5
Fruit and vegetables	278.9	285.8	287.0	295.7	306.7	317.2	326.6	333.7	340.2	347.7	355.7
Other food at home	184.2	190.1	194.4	198.4	203.4	208.2	212.5	215.9	219.1	222.6	226.3
Sugar and sweets	186.6	193.1	197.8	202.6	207.4	212.2	216.6	220.1	223.5	227.2	231.1
Fats and oils	196.8	200.6	206.5	211.3	217.3	222.3	227.0	230.2	233.2	236.9	240.7
Other prepared items	198.1	204.5	209.1	213.2	218.3	223.2	227.7	231.2	234.6	238.3	242.2
Non-alc. beverages	160.0	165.6	169.1	172.3	177.1	181.8	185.9	189.1	191.9	195.2	198.5
<b>Food away from home</b>	215.8	223.9	229.5	235.8	242.9	249.5	255.8	261.3	266.6	272.6	278.9

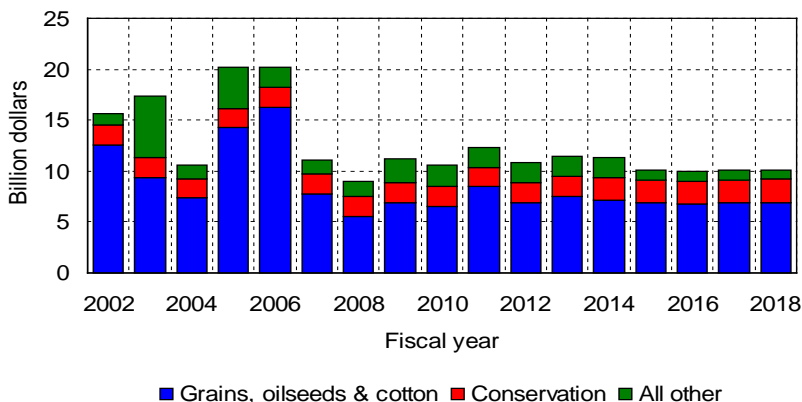
## Consumer expenditures for food

Calendar year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	(Dollars per person)										
<b>Total food per capita</b>	3,739	3,705	3,778	3,907	4,038	4,155	4,264	4,350	4,432	4,525	4,628
<b>Food at home</b>	1,989	1,955	1,988	2,055	2,123	2,184	2,239	2,276	2,310	2,349	2,392
<b>Food away from home</b>	1,751	1,750	1,790	1,852	1,914	1,971	2,025	2,074	2,122	2,177	2,237
	(Billion dollars)										
Multiply by population for:											
<b>Total US food expenditures</b>	1,142	1,143	1,176	1,228	1,282	1,332	1,380	1,421	1,462	1,507	1,556

# Government costs

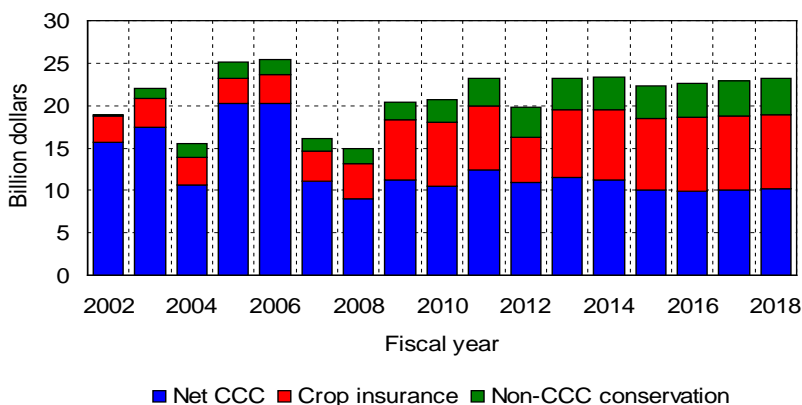
## CCC expenditures respond to markets and policies

- Net CCC outlays fell in FY 2007 and FY 2008, as expenditures declined on programs tied to commodity prices.
- Expenditures rebound in FY 2009, due in part to lower crop and milk prices.
- The first payments under the ACRE program occur in October 2010, which is part of FY 2011.
- The last tobacco trust fund payments are made in FY 2014.



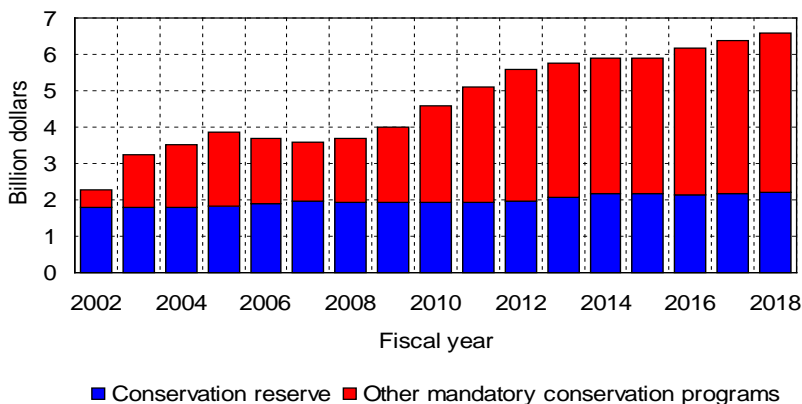
## Crop insurance outlays are tied to crop prices

- Mandatory government outlays under the crop insurance program and certain conservation programs are not included in the CCC account.
- Crop insurance outlays increase with crop prices, as premiums and premium subsidies increase with crop values.
- Crop insurance outlays dip in FY 2012 because of mandated changes in when producers pay premiums and companies are reimbursed for expenses.



## Conservation outlays rise due to farm bill changes

- CRP spending reflects changes in CRP area under contract and increased rental rates when new contracts are signed.
- For other mandatory conservation programs, projected expenditures are based on preliminary estimates from the Congressional Budget Office (CBO).
- Provisions of the 2008 farm bill lead to increased spending on the Conservation Stewardship Program, the Environmental Quality Incentive Program, and other conservation programs.



## Net government outlays

Fiscal year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Feed grains</b>	(Million dollars)										
Corn	1,856	2,190	1,825	2,510	2,036	2,346	2,289	2,274	2,237	2,309	2,374
Sorghum	201	189	176	231	178	203	200	196	194	196	196
Barley	82	80	71	97	95	100	94	90	90	92	93
Oats	3	3	3	9	11	11	10	9	9	9	9
<b>Food grains</b>											
Wheat	869	1,201	1,004	1,633	1,307	1,304	1,263	1,250	1,216	1,245	1,257
Rice	301	426	412	431	386	448	436	436	440	436	442
<b>Oilseeds</b>											
Soybeans	446	617	526	1,366	1,266	1,047	1,024	890	912	991	979
Peanuts	144	179	195	214	151	188	182	179	177	178	185
Other oilseeds	22	21	16	52	37	36	37	35	34	32	32
<b>Other commodities</b>											
Upland cotton	1,604	2,028	2,248	1,913	1,410	1,772	1,648	1,571	1,494	1,421	1,386
Sugar	-35	0	38	67	66	58	62	57	68	66	65
Dairy	92	756	436	121	152	77	50	51	52	41	25
<b>CCC conservation</b>											
Conservation reserve	1,927	1,935	1,932	1,942	1,958	2,075	2,177	2,156	2,155	2,175	2,223
Other CCC conservation	10	27	31	4	2	2	2	2	2	2	2
<b>Tobacco trust fund</b>	960	960	960	960	960	960	960	0	0	0	0
<b>Other CCC</b>											
Disaster payments, NAP	99	96	96	96	96	96	96	96	96	96	96
Other net costs	367	542	581	722	778	777	769	759	763	760	761
<b>Net CCC outlays</b>	8,948	11,251	10,549	12,369	10,888	11,499	11,299	10,051	9,938	10,048	10,125
<b>NRCS conservation</b>	1,762	2,046	2,640	3,164	3,615	3,682	3,714	3,735	4,027	4,205	4,374
<b>Crop insurance</b>	4,151	7,109	7,482	7,647	5,357	8,000	8,269	8,492	8,665	8,713	8,774
<b>Total mandatory outlays</b>	14,861	20,407	20,671	23,180	19,861	23,181	23,282	22,278	22,630	22,966	23,273

Note: "NRCS Conservation" denotes mandatory spending on conservation programs authorized by the 2002 and 2008 farm bills that is not included in reported CCC outlays. Fiscal years begin on Oct.1 of the previous calendar year (FY 2008: Oct. 1, 2007-Sep. 30, 2008).

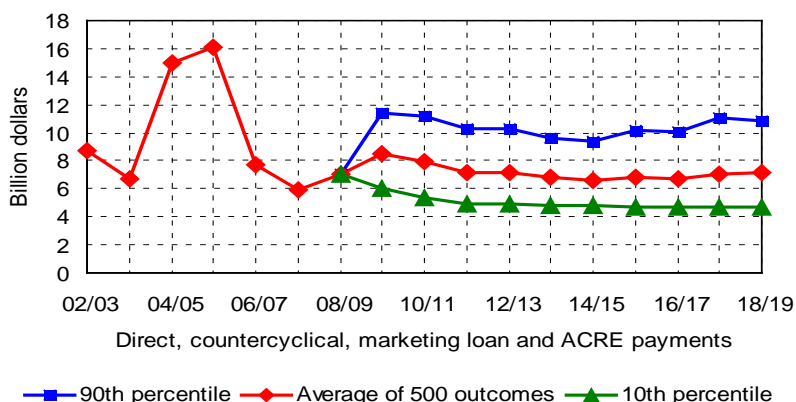
# Payments and crop insurance

- Marketing loan benefits, countercyclical payments and ACRE payments all depend on market prices.

- ACRE payments also depend on crop yields in particular states.

- As a result actual payments under these programs could be substantially higher or lower than the averages reported in the table.

Government payments depend on market situation

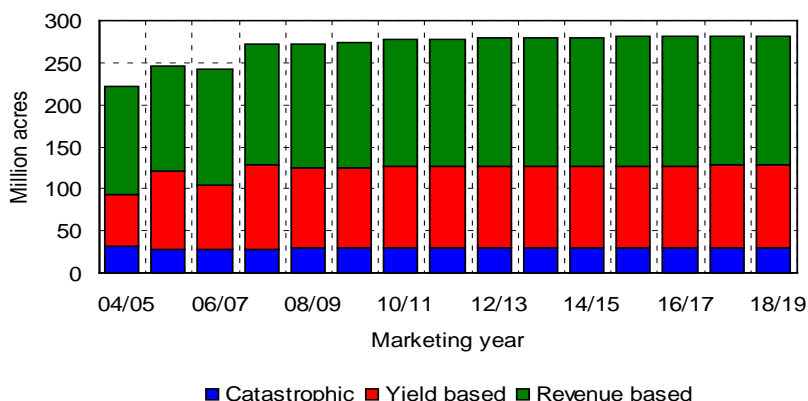


- Crop insurance continues to expand. The number of net acres insured increased to 272 million acres in 2008.

- More crops and areas are being covered by crop insurance, and the expansion is expected to continue through 2009 and beyond.

- Revenue-based policies are in force on most of the acres insured.

Revenue-based policies dominate crop insurance

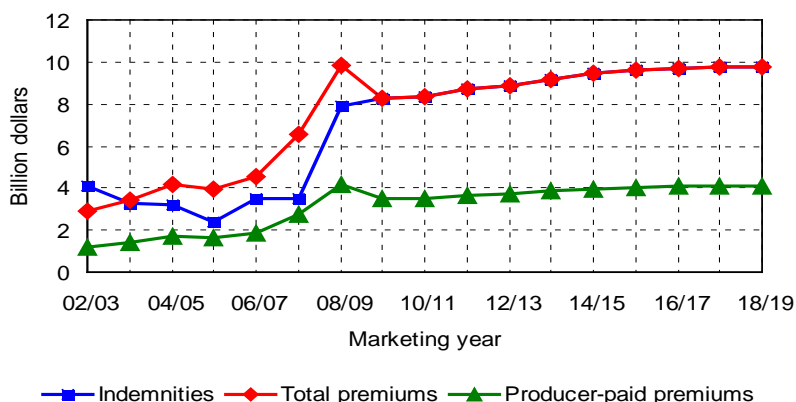


- For six straight years, the crop insurance loss ratio (indemnities divided by total premiums, including premium subsidies) has been less than 1.0.

- The baseline assumes an average loss ratio of 1.0. Actual loss ratios will vary based on crop yields and market prices.

- Total premiums and premium subsidies jumped in 2007/08 and 2008/09, primarily because higher prices increased the value of crops insured.

Crop insurance subsidies rise with higher prices





## Selected direct government payments

Marketing year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
(Million dollars)											
Direct payments	5,186	4,586	4,467	4,470	4,562	4,563	4,563	4,563	4,563	4,563	4,563
Marketing loans	595	492	433	442	445	348	327	315	251	256	298
Countercyclical payments	1,265	961	781	728	689	625	559	553	517	481	461
ACRE payments	0	2,462	2,286	1,558	1,419	1,247	1,182	1,361	1,432	1,779	1,882
Total	7,046	8,502	7,967	7,199	7,115	6,783	6,630	6,791	6,762	7,079	7,204

Note: Includes selected payments for feed grains, food grains, oilseeds, and upland cotton.

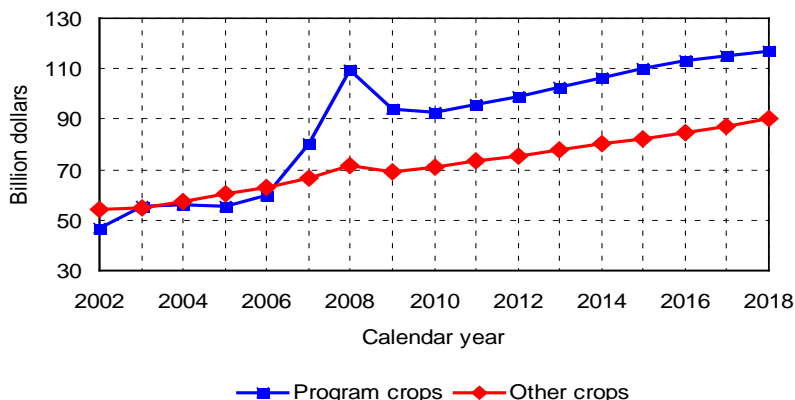
## Crop insurance

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
(Million acres, crop year)											
Eligible acres	593.2	676.0	677.6	677.5	678.0	678.1	678.7	679.4	679.6	679.4	679.3
Net acres insured	272.4	274.5	277.3	278.0	279.0	279.5	280.3	281.2	281.6	281.7	281.9
Catastrophic	30.0	29.9	29.8	29.7	29.7	29.8	29.9	30.0	30.1	30.1	30.1
Yield buy-up	94.0	95.7	96.1	96.3	96.6	96.8	97.0	97.3	97.5	97.7	97.8
Revenue-based	148.3	148.9	151.4	152.1	152.7	152.9	153.4	153.9	154.0	154.0	153.9
Crop insurance Participation rate	45.9%	40.6%	40.9%	41.0%	41.1%	41.2%	41.3%	41.4%	41.4%	41.5%	41.5%
(Billion dollars, crop year)											
Total premiums	9.86	8.25	8.38	8.69	8.88	9.18	9.43	9.62	9.68	9.74	9.80
Producer-paid premiums	4.16	3.47	3.52	3.65	3.73	3.86	3.97	4.05	4.07	4.10	4.12
Premium subsidies	5.69	4.79	4.86	5.04	5.15	5.32	5.47	5.58	5.61	5.65	5.68
Total indemnities	7.89	8.25	8.38	8.69	8.88	9.18	9.43	9.62	9.68	9.74	9.80
Loss ratio	0.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
(Billion dollars, fiscal year)											
Total obligations	7.16	9.76	9.72	9.87	10.24	10.47	10.82	11.11	11.34	11.40	11.48
Net outlays	4.15	7.11	7.48	7.65	5.36	8.00	8.27	8.49	8.66	8.71	8.77
Budget authority	4.22	6.96	7.45	7.56	4.22	7.88	8.17	8.42	8.64	8.69	8.75

# Farm receipts and expenses

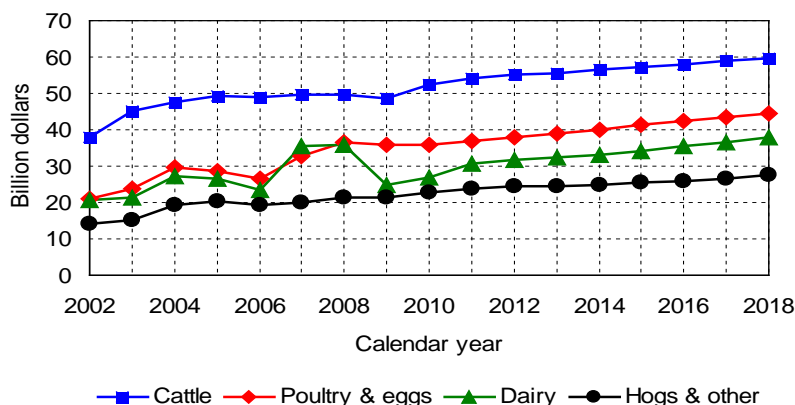
Program crop receipts jumped in 2008 then fall

- Cash receipts from sales of program crops (grains, oilseeds, cotton and sugar) almost doubled between 2005 and 2008.
- Prices of most program crops decline in calendar year 2009, resulting in lower cash receipts.
- Other crop receipts vary less from year to year, although they are also expected to dip slightly in 2009.



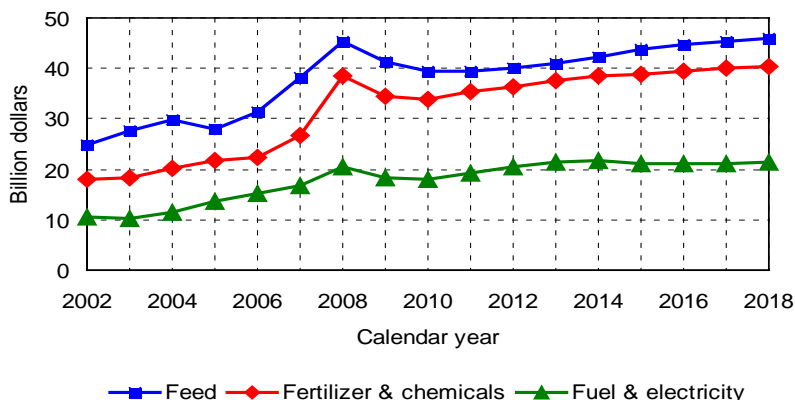
Dairy and livestock receipts also fall in 2009

- Sharply lower milk prices in 2009 result in a large reduction in dairy cash receipts.
- Cattle and poultry receipts also decline slightly in 2009.
- Dairy and livestock receipts increase in 2010 and later years, as the assumed recovery in the US and global economies leads to increased demand for animal products.



Production costs also rose sharply, but dip in 2009

- Farm production expenses increased sharply between 2002 and 2008, primarily because of large increases in spending on fertilizer, fuel, and feed.
- Lower prices for these key inputs result in lower farm expenditures in 2009.
- Given the recent large swings in input prices, different producers may experience very different production costs in 2009.



## Farm cash receipts

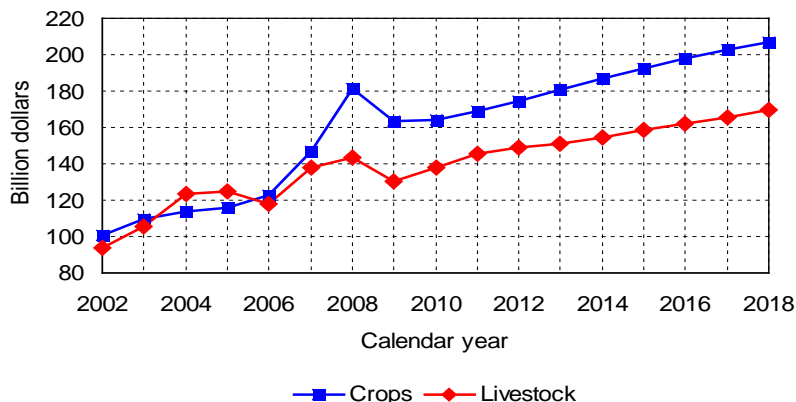
Calendar year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
(Billion dollars)											
Feed grains	61.43	51.48	51.58	53.15	54.82	56.92	59.27	61.64	63.66	65.07	66.15
Food grains	19.53	15.41	14.06	14.11	14.33	14.78	15.22	15.65	15.98	16.15	16.26
Oilseeds	29.08	27.83	27.50	28.49	29.62	30.68	31.92	32.68	33.37	34.16	34.71
Cotton	4.99	4.28	4.48	4.67	4.79	4.89	4.99	5.10	5.24	5.35	5.43
Sugar	2.14	2.21	2.35	2.38	2.38	2.40	2.44	2.48	2.51	2.53	2.56
Other crops	63.94	62.13	63.98	66.46	68.61	70.70	72.84	74.90	77.09	79.36	81.73
Cattle	49.53	48.58	52.38	54.00	55.14	55.55	56.56	57.37	58.03	59.04	59.73
Hogs	16.04	16.08	17.24	18.08	18.68	18.59	18.74	19.09	19.34	20.02	20.76
Dairy products	35.72	24.79	27.04	30.55	31.60	32.28	33.13	34.30	35.65	36.57	37.83
Poultry, eggs	36.38	35.75	35.97	36.91	37.79	38.85	40.09	41.30	42.43	43.50	44.54
Other livestock	5.47	5.24	5.47	5.72	5.88	6.00	6.14	6.28	6.43	6.59	6.76
Total cash receipts	336.65	293.78	302.06	314.51	323.63	331.64	341.33	350.78	359.72	368.35	376.46

## Farm production expenses

Calendar year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
(Billion dollars)											
Feed	45.23	41.18	39.36	39.38	39.91	40.93	42.34	43.68	44.64	45.39	45.95
Purchased livestock	17.75	17.98	19.44	20.24	21.01	21.26	21.77	21.99	22.12	22.40	22.35
Seed	15.30	15.31	15.53	16.25	16.77	17.44	18.00	18.30	18.65	19.00	19.35
Fertilizer and chemicals	38.48	34.41	33.97	35.48	36.36	37.58	38.66	38.78	39.31	39.98	40.27
Fuels and electricity	20.53	18.41	17.90	19.35	20.41	21.38	21.60	21.09	21.13	21.27	21.49
Interest	14.72	13.86	15.04	17.03	18.37	19.32	20.12	20.77	21.34	21.91	22.48
Contract and hired labor	26.99	26.33	26.58	26.90	27.15	27.67	28.32	28.97	29.65	30.39	31.18
Capital consumption	28.36	28.96	29.46	29.94	30.33	30.72	31.21	31.77	32.40	33.09	33.82
Rent to non-operators	10.34	11.30	10.98	11.16	11.39	11.69	12.10	12.69	13.41	14.14	14.81
All other	72.90	70.46	70.94	73.30	75.00	77.06	78.72	79.65	80.95	82.32	83.66
Total production expenses	290.59	278.21	279.21	289.02	296.70	305.05	312.84	317.69	323.62	329.89	335.35

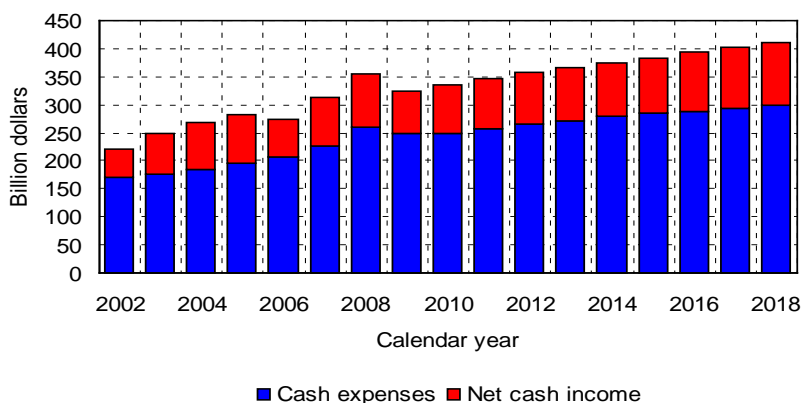
# Farm income

Crop receipts now exceed livestock receipts



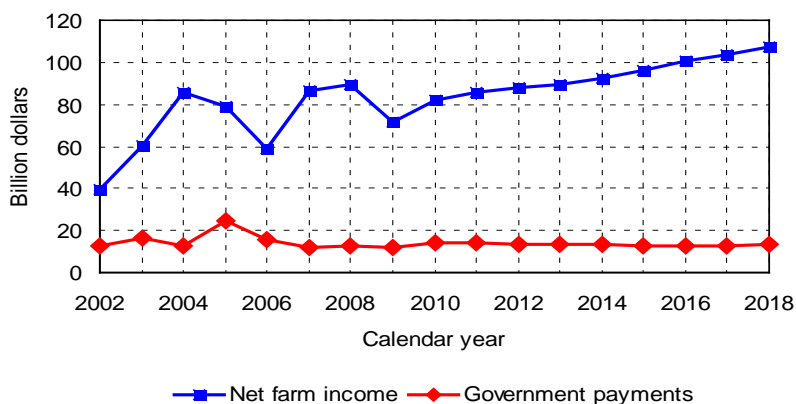
- The sharp increase in crop prices in 2007 and 2008 caused growth in crop receipts that far outpaced the increase in livestock receipts.
- Both crop and livestock receipts decline in 2009.
- Not until 2014 do crop receipts exceed the 2008 level. Livestock sector receipts recover more quickly, but remain well below crop receipts.

Net cash income falls \$17 billion in 2009



- The decline in gross cash income in 2009 far exceeds the reduction in cash production expenses, resulting in a \$17 billion decline in net cash income.
- Projected growth in gross cash income after 2010 slightly outpaces increases in production expenses, so net cash income increases over time.
- Depreciation is the main difference between cash expenses and total production expenses.

Net farm income rises after a 2009 decline



- Net farm income, another measure of overall farm sector income, declines by \$18 billion in 2009.
- Net farm income begins to recover in 2010, but only exceeds the nominal 2008 level after 2013. After correcting for inflation, real net farm income only surpasses the 2008 level in 2018.
- Government payments in the baseline are a smaller share of farm income than they were in 2005 and 2006.

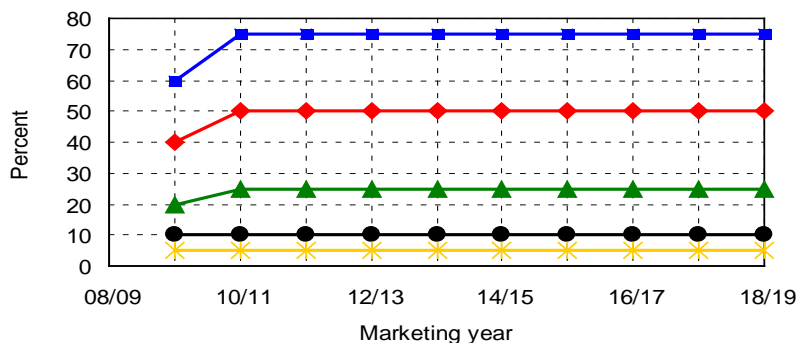
## Farm income statistics

Calendar year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	(Billion dollars)										
1. Farm receipts	341.92	311.83	320.35	333.42	342.83	351.30	361.40	371.18	380.29	389.20	397.71
Crops	181.11	163.34	163.96	169.25	174.55	180.37	186.67	192.45	197.85	202.62	206.84
Livestock	143.14	130.43	138.10	145.25	149.08	151.27	154.65	158.34	161.88	165.73	169.62
Farm-related	17.67	18.06	18.29	18.91	19.20	19.66	20.07	20.39	20.57	20.85	21.24
2. Government payments	12.40	12.18	14.35	14.00	13.75	13.66	13.43	12.37	12.72	12.86	13.38
3. Gross cash income (1 + 2)	354.32	324.01	334.69	347.41	356.58	364.96	374.83	383.55	393.01	402.06	411.09
4. Nonmoney income	25.29	25.99	26.85	27.80	28.57	29.22	29.85	30.43	31.02	31.66	32.33
5. Value of inventory Change	0.29	-0.28	-0.20	-0.18	-0.18	0.01	0.36	0.14	0.25	-0.19	-0.48
6. Gross farm income (3 + 4 + 5)	379.91	349.72	361.34	375.04	384.97	394.18	405.04	414.11	424.28	433.52	442.93
7. Cash expenses	260.90	247.81	248.19	257.38	264.56	272.40	279.59	283.76	288.95	294.43	299.04
8. Total expenses	290.59	278.21	279.21	289.02	296.70	305.05	312.84	317.69	323.62	329.89	335.35
9. Net cash income (3 - 7)	93.42	76.20	86.50	90.03	92.02	92.56	95.24	99.78	104.05	107.63	112.05
10. Realized net farm inc (3 + 4 - 8)	89.03	71.79	82.34	86.19	88.45	89.13	91.84	96.28	100.41	103.82	108.07
11. Net farm income (6 - 8)	89.32	71.51	82.14	86.02	88.26	89.13	92.20	96.42	100.66	103.63	107.58
Deflated (1997 \$)	69.55	55.07	62.48	64.39	64.92	64.19	64.92	66.47	68.04	68.73	70.04

# Average Crop Revenue Election (ACRE) program

ACRE participation rates differ across crops

- The ACRE program is a voluntary program established by the 2008 farm bill and first available for the 2009 crop.
- ACRE payments occur when state level revenues fall below trigger levels.
- Participating producers must give up some traditional farm program benefits and enroll all crops on a farm.
- Assumed participation rates are based on calculations of the average net benefits of participating in the program.

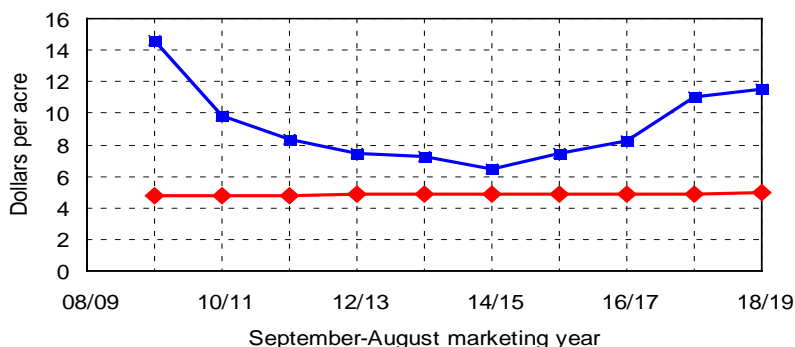


Other field crops\* Sorghum Rice Peanuts Cotton

\*Corn, soybeans, wheat, barley, oats, and sunflowers

Corn ACRE payments exceed foregone payments

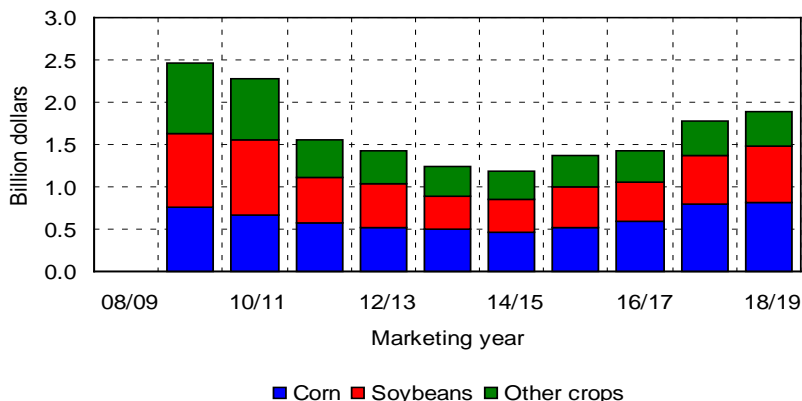
- Because ACRE payments depend on prices and state yields, they are inherently uncertain.
- In any given year, for any given commodity, in any given state, the most likely outcome is that payments will be zero, but when payments occur, they can be large.
- For corn and most other crops grown in northern states, average ACRE payments over time are likely to exceed the payments participants must forego.



ACRE payments Foregone traditional payments

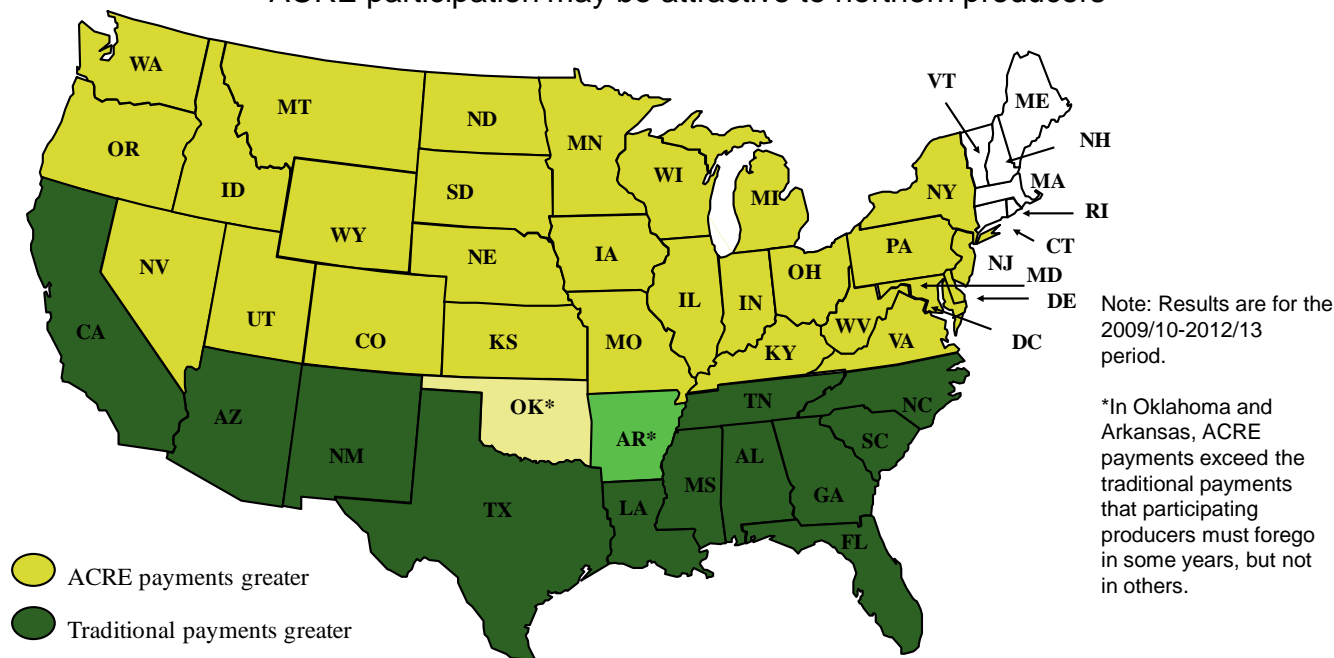
ACRE payments change with market prices

- Average ACRE payments are greater in 2009/10 and 2010/11 than in later years.
- Projected average prices for grains and oilseeds fall in 2009/10 relative to the 2007/08-2008/09 prices used in calculating ACRE benchmark revenues. This increases the likelihood of ACRE payments.



- In later years, ACRE payments decline as average prices rise and increase when average prices level off or fall.

## ACRE participation may be attractive to northern producers



## Returns to ACRE participation

Marketing year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
<b>ACRE payments per participating planted acre</b>											
	(Dollars per acre)										
Corn	0.00	14.65	9.88	8.30	7.41	7.22	6.50	7.43	8.23	11.07	11.50
Soybeans	0.00	19.17	15.08	9.06	8.68	6.41	6.69	7.97	7.82	9.71	10.79
Wheat	0.00	18.90	12.49	7.44	6.45	6.14	5.36	5.98	6.34	6.80	6.81
Upland cotton	0.00	18.29	8.15	8.32	10.60	8.71	8.98	8.95	10.27	9.30	10.68
Rice	0.00	40.46	66.11	34.93	17.96	18.90	19.68	19.03	26.30	25.81	27.43
Peanuts	0.00	11.99	8.68	7.45	9.52	10.73	11.30	13.03	15.43	15.96	16.01
<b>Traditional payments foregone per participating acre*</b>											
Corn	0.00	4.78	4.79	4.78	4.87	4.89	4.87	4.87	4.87	4.87	4.93
Soybeans	0.00	2.26	2.54	2.57	2.75	2.44	2.48	2.52	2.53	2.47	2.36
Wheat	0.00	3.01	3.11	3.16	3.17	3.14	3.13	3.11	3.06	3.12	3.11
Upland cotton	0.00	118.65	96.07	94.00	92.13	79.00	73.44	71.18	60.84	58.90	62.74
Rice	0.00	21.60	27.20	29.00	25.38	25.27	23.20	23.80	24.30	23.90	24.70
Peanuts	0.00	113.93	107.29	90.69	88.14	83.24	80.51	80.87	83.92	84.09	85.10

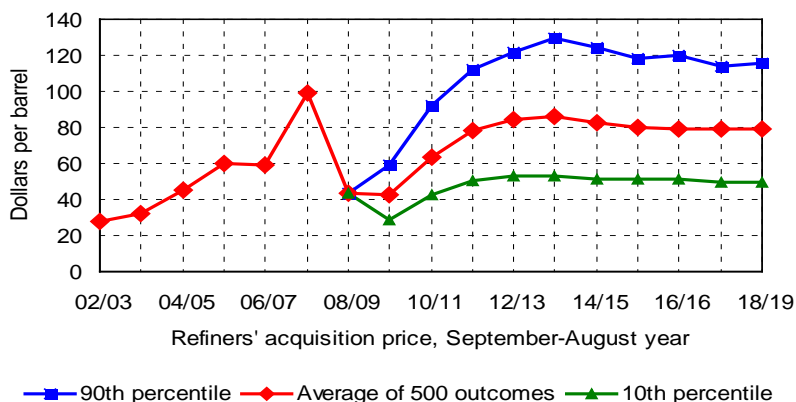
\* Assumes one acre of base for each planted acre. Differences between planted and base acreage can be large and would affect these results.

Notes: Results represent average results across 500 outcomes for the country as a whole. In any given year, ACRE payments for any given commodity are most likely to be zero, but when payments occur they can be large. Participants must enroll all crops on the farm.

# Ranges from the 500 alternative futures

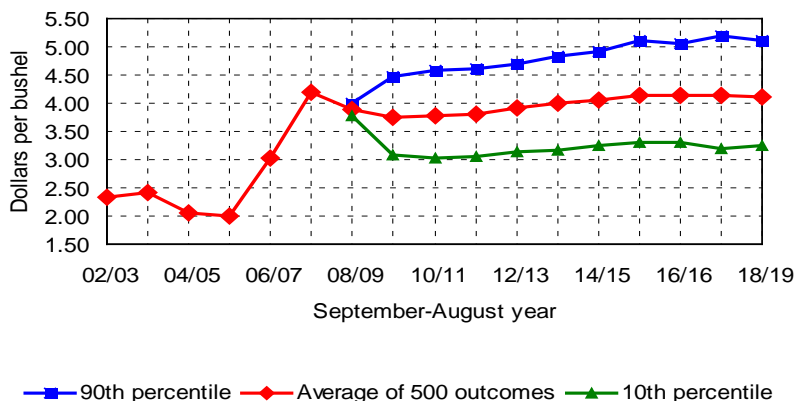
## Petroleum price uncertainty is great

- IHS Global Insight expects the refiners' acquisition price for petroleum to remain low in 2009 but then recover to a peak of over \$80 per barrel.
- To examine alternative futures for biofuel and agricultural markets, we explored a range of possible oil prices, approximately centered on the IHS Global Insight forecast.
- This variable, and hundreds of others, are varied to generate the stochastic baseline.



## Corn prices depend on petroleum, yields and more

- Corn prices depend on petroleum prices, crop yields, global economic growth, the value of the dollar and many other uncertain factors.
- Average prices for most grains and oilseeds decline in 2009/10, but remain relatively high compared to pre-2007/08 levels.
- In most of the outcomes, corn prices are between \$3.00 and \$5.00 per bushel.



## Net farm income is also likely to vary

- Because commodity prices, production and production expenses are all uncertain, so is net farm income.
- In almost all of the alternative outcomes, net farm income declines in 2009. Average net farm income increases in later years, but may be higher or lower in any given year.
- Caution is warranted in interpreting these and other results. There are certain to be risks to the baseline not captured in these 500 alternative futures.

